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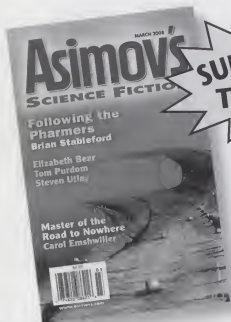
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## SCIENCE FICTION

FEBRUARY 2009

Vol. 33 No. 2 (Whole Number 397)

Next Issue on Sale January 27, 2009

Cover Art for "Pelago" by Jeroen Advocaat

### NOVELLA

- 58 PELAGO ..... JUDITH BERMAN

### SHORT STORIES

- 10 COLLIDING BRANES ..... RUDY RUCKER & BRUCE STERLING  
24 THE BIRD PAINTER IN TIME OF WAR ..... CAROL EMSHWILLER  
34 THE COLDEST WAR ..... MATTHEW JOHNSON  
42 THE CERTAINTY PRINCIPLE ..... COLIN P. DAVIES  
54 THE POINT ..... STEVEN UTLEY

### POETRY

- 23 THEY BELIEVED IN FAIRIES  
DURING WORLD WAR ONE ..... DARRELL SCHWEITZER  
53 THE SILENCE OF ROCKETS ..... G.O. CLARK  
56 SINGULARITY SONG ..... DAVID LUNDE  
104 REGULAR RIDERS ..... RUTH BERMAN

### DEPARTMENTS

- 4 EDITORIAL: MUSICA UNIVERSALIS ..... SHEILA WILLIAMS  
6 REFLECTIONS: IT WASN'T ALL  
THAT EASY ..... ROBERT SILVERBERG  
106 NEXT ISSUE .....  
107 ON BOOKS ..... PETER HECK  
112 THE SF CONVENTIONAL CALENDAR ..... ERWIN S. STRAUSS

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## MUSICA UNIVERSALIS

Music has always had a profound effect on writers and thinkers. Music was a powerful tool for Johannes Kepler, the father of modern astronomy, who found inspiration in the concept of the music of the spheres for his third law of planetary motion. Music for Shakespeare was "the food of love," and music has certainly been an influential creative force in the process of writing science fiction. Sometimes music is invoked mainly as background noise. Other times, lyrics and musical compositions directly affect the plots and characterization.

Numerous examples of both types of stories have appeared in *Asimov's*. The December 2008 issue alone carried three stories that, while vastly different from each other, owed much to Euterpe, the muse of music. The most obvious example was the cover story, David Ira Cleary's paean to the alternative rock music of the eighties and early nineties. Although the sound of the music is pumping in the background, the culture that was associated with the music is also used to explore the dissolute lives of David's grunge cover musicians.

Euterpe is no less in evidence in Kathryn Lance and Jack McDevitt's "Welcome to Valhalla," although this time she appears in disguise as a Valkyrie. The composer has morphed from Kurt Cobain to Richard Wagner, but the music is still inextricable from the story. Music does not seem quite as central to "In Concert," the lovely duet of an old woman and a lost astronaut composed by Melanie Tem and Steve Rasnic Tem. Yet, it is music that gives the story its title, and it is music that brings us nearly to tears when we reach the story's elegiac ending.

Earlier in the year, it was the multiple universes and strains of jazz that fea-

tured so brilliantly in Gord Sellar's "Lester Young and the Jupiter's Moons' Blues" (July 2008). It's the music of Miles Davis and Lester Young that the aliens love, but they are defeated by the dissonant harmonies of Thelonious Monk.

Music exists as a comfortable part of the background in most of the works of Tom Purdom. Tom, a former Philadelphia music critic, imagines a future in which anyone can be, and usually is, a music virtuoso. Due to the ubiquity of information molecules that can be installed in the human body without expensive surgery, it no longer takes years of practice and great of talent to play like a Jacqueline du Pré or a Vladimir Horowitz. Characters pick up the cello or the piano as casually as they might play a game of rummy. It's refreshing to see classical music take on such an ordinary and omnipresent role in society, but Tom also seems to hint that the ease with which the characters play their instruments indicates that the ability to create true art has been lost.

Connie Willis is another long-time *Asimov's* author whose work is clearly influenced by her interest in music. The song "White Christmas" features in her story "Just Like the Ones We Used to Know" (December '03). According to the *Guinness Book of World Records*, the multiple versions of this best selling song of all time have sold over a hundred-million copies. The song permeates the story and our consciousness. Our familiarity with this song helps to move the plot along and ensures that the story resonates. This feat has to be accomplished without resorting to any of the song's actual lyrics, though, because the words are under copyright protection.

Many songs that find a permanent home in our memory can be accessed by a simple reference to the song's title. This is

fortunate, because titles cannot be copyrighted so authors are always free to refer to songs by their names. It's not much of a stretch to hear the Talking Heads while reading Lucius Shepard's *Life During Wartime* or the Beach Boys while immersed in Howard Waldrop's "Do Ya, Do Ya Wanna Dance?" (August 1988).

On the other hand, Connie made masterful use of lyrics in her Hugo-Award Winning Story "All Seated on the Ground," which appeared in our December 2007 issue. Here, the story's denouement can be found in the words of dozens of Christmas carols, hymns, and popular songs. Since most of these songs have long been in the public domain, the author was able to quote their lyrics. The words may have provided the clues in the story, but our knowledge of the music provided the sound track.

It's important, though, that a story stand on its own without an assumption of the audience's musical knowledge. I brought no deep appreciation of either jazz or grunge to my readings of Gord's and David's stories, and yet the stories were so well written that they conveyed their extra meanings to me. Just as it's always a pleasure to pick up allusions to Milton, Lord Byron, or Pythagorus, it's fun to find those mentions of modern culture. I'm certain I miss numerous song references, so authors must employ additional methods to ensure that they get their points across. Early in Allen M. Steele's career, he was criticized because his "beamjacks" listened to groups from the distant past like The Grateful Dead and Twisted Sister while working dangerous space construction jobs. Still, the independent and rebellious spirit of Allen's characters shone through even without the presumption of a seventies rock renaissance.

The stories in the current issue don't appear to be infused with musical motifs. Their plots are not affected by mathematical harmony. Together, though, they can be thought of as the themes and development that form *Asimov's* February 2009 symphony. ○

# Asimov's

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# REFLECTIONS

by Robert Silverberg

## IT WASN'T ALL THAT EASY

I've been a professional science fiction writer for something like fifty-five years now, have had so many books and stories published that I long ago lost count of how many there are, and never have any trouble finding publishers to pay me for what I write. To a modern-day would-be writer, all that sounds pretty enviable, right? How splendid to be Robert Silverberg, you must think! All he has to do is move his fingers over the keyboard and salable fiction comes tumbling out!

Well, let me tell you: I was once a would-be writer just like you, who looked at famous professional writers like Theodore Sturgeon and Robert Sheckley and L. Sprague de Camp with the same sort of envy, thinking that they had somehow been born with an innate ability to write stories that any editor would want to publish, and merely had to sit down and start typing in order to produce something splendid. I was wrong about that, as I discovered when I got to know those writers later on. Nothing had been magically easy for them. They had struggled to break in, and then, having made the grade, they had struggled to stay there. So had all the other writers I idolized, the one exception being Robert A. Heinlein, who seems to have begun his career at full velocity and kept right on going for the next forty years. And I struggled plenty too. I know I did, because the other week, while looking for something else, I came upon a file folder full of ancient rejection slips, and I was reminded yet again of that anguished period in my middle and late teens when I wanted desperately to sell a story to a science fiction magazine, any magazine, and had everything I wrote sent back to me with a nasty little "sorry, can't use it" note clipped to it.

Of course, I was only in my teens then. Not only hadn't I mastered the skills that a professional storyteller needs to know, I didn't know a whole lot about the world, either, and so the best I could

hope to do was to recycle ideas that older writers had turned into stories, and do it not nearly as well as they had. If I had been thirty-two years old and worldly-wise, as Heinlein had been in 1939 when he wrote and sold his first SF story, I might have begun my career as effortlessly as Heinlein had. But I wasn't thirty-two, and I wasn't Heinlein. (And even Heinlein got a story rejected once in a while, though such events were few and far between.) Instead I was fourteen or thereabouts, and pretty wet behind the ears, when I began mailing stories to the science fiction editors of the day.

They came back with amazing rapidity. I don't seem to have kept the earliest rejection slips I got, which dated from early in 1949 and came from the premiere editor of the era, John W. Campbell, Jr., of what was then called *Astounding Science Fiction* and is now *Analog*. I remember them as crisp postcard-sized printed forms explaining that the story that had been submitted did not meet the magazine's present needs, and perhaps they were signed with the distinctive bold scrawl that was Campbell's signature, and why I didn't keep them I have no idea. What looks like the oldest survivor in the file comes from *Amazing Stories*, the first SF magazine that I read regularly, and it must date from 1949, because it bears a Chicago address and at the end of that year *Amazing* moved to New York. It simply says, "Sorry overstocked," written by hand and signed, "H. Browne, editor." Overstocked, all right: what I didn't know was that *Amazing* was completely staff-written and that Howard Browne, the editor, never read any unsolicited story. (Six years later I would become a member of Howard Browne's New York staff and sell dozens of stories to *Amazing*, but not even in my dreams could I have expected that in 1949!)

Here's another early one, from Fiction House, Inc., which published the grand old



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pulpy mag *Planet Stories*. It dates from April 1950, and was earned by my story "Where Alph, the Sacred River, ran . . ." which I wrote that month and sold for five dollars, a year later, to a semi-pro magazine called *The Avalonian*. "Dear Contributor," it begins. "We regret that your manuscript does not meet our editorial requirements. In general, we want well-plotted stories with emphasis on swift, colorful action. To get a clear idea of our specific needs we suggest that you read and analyze recent copies of the magazine." Sure. But I *had been* reading and analyzing recent copies of the magazine, staring intently at every word. The problem was that I wasn't capable of moving from analysis to creation, any more than the baseball fan who carefully analyzes the home-run swing of his favorite slugger is able to hit one out of the park himself.

But that *Planet Stories* rejection slip came with something special attached: a personal note from the magazine's young editor, Jerome Bixby, to whom I had been writing letters about the stories in his magazine: "Right back at you with a bilious Fiction House rejection slip for your collection." (And a bilious green it was, very unappealing.) "Where Alph, the Sacred River Ran . . ." is one of the best fan jobs I've seen in a long time. Keep it up . . . you're bound to connect sooner or later. Probably later, though, when your collection has grown some."

I was thrilled. Before long, I sent Bixby another story, certain that he would accept it. But he had moved along to another magazine by then, and from his successor at *Planet* came a cruel postcard, not even a rejection slip, dated January 2, 1951: "We are holding your manuscript, 'Introduction,' for pickup or \$.06 return postage." Not even "does not fit our needs!"

Another from 1950, from the low-and-slow-paying *Weird Tales*, thanks me "for the privilege of reading your manuscript. Its return does not necessarily imply lack of merit, but means that it does not fit in with our needs." Another from *Amazing* in Chicago—"Sorry overstocked," again. It refers to a story called "Homeward Retreat," of which I have not the slightest recollection. From *Future Science Fiction's* Robert W. Lowndes, to

whom I would sell a host of stories years later: "We are sorry that your manuscript is not for us, and that we could not return it with an individual letter. We realize that a cold, printed rejection slip does not tell you whether your submission approached our requirements—but we receive such a large volume of manuscripts every day that. . ."

I didn't give up hope. Not completely, anyway. Certainly I was downcast by these rejections—I have cited here only these few out of more than a dozen from 1949 and 1950—but I was driven by that peculiar madness that afflicts young would-be writers, and I sent my stories out again and again. Bea Majaffey of *Other Worlds Science Stories* sent me a form that included about thirty reasons for turning a story down ("Logic is faulty" . . . "Science is inaccurate" . . . "Too dull and factual . . .") The two items that were checked for my story were "Not convincingly written" and "Poorly plotted." Well, I was only fifteen. But I urged myself to write more convincingly next time.

One of the pivotal rejection slips of my young life arrived in February, 1951 from Morton Klass—the younger brother of Phil Klass, better known as the SF writer "William Tenn"—of *Super Science Stories*. (I'm not making that one up!) Addressing me as "Mr. Silverberg," he said, "Sorry we have to return 'Vanguard of Tomorrow,' but it doesn't quite make our grade. Most of the trouble lies with the plot, which—as you probably know yourself—is one of the oldest in science-fiction. Well, you say, why can't somebody give an old plot a new twist? Heinlein took this plot and did it. Trouble is, we're not all Heinleins—at least not every day.

"You're young, but that can sometimes be an asset. SF is always looking for a fresh viewpoint. Let's say you go to high school. What would high school be like on Mars? Procyon? Another time-stream? Hit 'em with the stories no one is writing, and see what happens. Us, too. We'd be happy to see more of your work."

I was, of course, disappointed to see "Vanguard of Tomorrow" come bouncing back—I had written it one sweltering week in September 1950, using a punchy, high-powered short-paragraph style that

I borrowed from Clifford D. Simak, and I thought it was great stuff. (I still have the manuscript. It isn't great stuff.) But Mort Klass's encouraging letter sank in deeply, and just two years later I began a book for young readers on just the theme he suggested that became my first published novel, *Revolt on Alpha C*.

Published novels seemed infinitely far in my future back there in 1951, and 1952, too. From William Hamling's *Imagination* came three printed rejection slips, and then a fourth with a scrawled note from Hamling in the margin: "Sorry, Bob, this doesn't quite make it. But keep plugging!" I kept plugging. Eventually I would sell him dozens of stories. From H.L. Gold of *Galaxy* came a typed note dated May 8, 1953: "Sorry we can't use 'The Cure.' However, we like your style and hope you'll try us again." He likes my style? Really, or was that just boilerplate? Apparently he did. Further stories brought longer notes from Gold, some of them encouraging, some of them vitriolic, but all of them useful. ("Aside from a tendency to be over-explicit in spots and repeat in dialogue something already stated in narrative, you've told your story well. Trouble is that you don't have an ending. . . !") Gold beat me about the head and shoulders with many such notes, but eventually he beat me into shape and bought a goodly number of stories from me for his prestigious magazine, starting in 1956. As soon as I got "The Cure" back from Gold I sent it to Sam Moskowitz of Hugo Gernsback's *Science Fiction Plus*, who turned it down in June as "well-written, smooth & clever. Good dialogue. The ending is very weak, but some of the background is interesting. Too long for the extent of the ideas." I have no idea today what that story was about.

I've got a sheaf of others from the early 1950s: a two-inch file of them. The most significant of them came from the now-forgotten Peter Hamilton, editor of the now-forgotten *Nebula Science Fiction*, published in Scotland. I had sent him "Vanguard of Tomorrow," and he returned it in April 1953 with a lengthy note telling me he was turning it down because "it is very complicated for nonfans (who make up the vast majority of my readers) and . . . it seems to pack no

punch or realism." But, he added, he was anxious to help young authors on the way up, and advised me "to do a spaceship-alien planet theme, keeping the plot simple and the writing taught [sic!] and send it to me again. I'll do all I can to show you where you go wrong and suggest how to put it right, and I believe, with a little perseverance, you will make quite a promising writer."

I took the advice to heart and wrote a three-thousand-worder called "Gorgon Planet," which Hamilton accepted in January 1954, paying me \$12.60. It was my first sale of fiction to any professional SF magazine, and I was on my way. Before long I had sold stories to Bob Lowndes and Bill Hamling, and then, in 1955, to Howard Browne of *Amazing* and the formidable John W. Campbell of *Astounding*, and after that I would be able to sell just about any story I wrote. But not always to the first editor I showed it to. Even after my career was launched, occasional rejection slips still showed up. (John Campbell, 1963: "Glad to hear from you again . . . but I'm afraid this one really isn't a story." Larry T. Shaw, same year: "I'm sure someone will buy it, but what we need is something more intellectually slanted and strongly plotted." Damon Knight, 1969: "This one is ingenious, but I could not persuade myself that I cared what happened to either of the characters." And so on, every now and then, especially after I began writing stories for the very hard to please Alice K. Turner of *Playboy* in 1981. She bought a lot from me, but she turned plenty down, too.)

Yes, I did get to have a long and rewarding career despite all those early rejections, and no, it wasn't easy to get started, however it might look in hindsight. Many a time back in 1952 and 1953 I was just about ready to give up trying to sell my stories altogether, even as you sometimes are. For me that would have been a mistake. Perhaps it would be for you also. Some people, however keen their ambitions might be, simply will never learn the knack of writing stories people will want to read. If you have what it takes, though, you'll keep right on jogging down that bumpy road until you get where you want to go. ○

# COLLIDING BRANES

Rudy Rucker & Bruce Sterling

Bruce Sterling's most recent exploits include a stint as the "Visionary in Residence" for the Sandberg Instituut in Amsterdam last November. In September, he keynoted the Austin Game Developers Conference while publicly appearing as a time traveler. The author's new SF novel *The Caryatids* is just out from Del Rey. Rudy Rucker's latest pair of novels depict a near-future Earth in which every object becomes conscious. The first, *Post-singular*, is just out in paperback from Tor, and the second, *Hylozoic*, will appear in hardcover in May. You can find current information about Rudy's work on his blog at [www.rudyruker.com/blog](http://www.rudyruker.com/blog). In their fifth collaboration together for *Asimov's*, the authors bring us an unparalleled portrayal of what the end of the world will mean to the blogosphere.

"**B**ut why call this the end of the universe?" said Rabbiteen Chandra, feeling the dry night air beat against her face. The rollicking hearse stank of cheap fried food, a dense urban reek in the starry emptiness of the Nevada desert. "At dawn our universe's two branes collide in an annihilating sea of light. That's not death, technically speaking—that's a kalpa rebirth."

Angelo Rasmussen tightened his pale, keyboard-punching hands on the hearse's cracked plastic wheel. His hearse was a retrofitted 1978 Volvo, which ran on recycled bio-diesel cooking-oil. "You're switching to your Hindu mystic thing now? After getting me to break that story?"

"I double-checked my physics references," Rabbiteen offered, with an incongruous giggle. "Remember, I have a master's degree from San Jose State."

Rabbiteen knew that this was her final road trip. She'd been a good girl too long. She tapped chewing tobacco into a packet of ground betel-nut. Her tongue and her gums were stained the color of fresh blood.

"The colliding branes will crush the stars and planets to a soup of hard radiation," she assured Angelo. "Then they rebound instantly, forming brand-new particles of matter, and seeding the next cycle of the twelve-dimensional cosmos." She spread her two hands violently, to illustrate. "Our former bodies will expand to the size of galactic superclusters."

Angelo was eyeing her. "I hope our bodies overlap." He wore a shy, eager smile. "Given what you and I know, Rabbiteen, we might as well be the last man and woman on Earth." He laid his hand on her thigh, but not too far up.

"I've thought that issue through," said Rabbiteen, inexpertly jetting betel spit out the window. Blowback stained her hand-stitched paisley blouse. "We'll definitely make love—but not inside this hearse, okay? Let's find some quaint tourist cabins."

As professional bloggers, Rabbiteen and Angelo knew each other well. For three years, they'd zealously followed each other's daily doings via email, text messages, video posts, social networking, and comment threads.

Yet they'd never met in the flesh. Until today, their last day on Earth—the last day for the Earth, and, in stark fact, also for Earth's solar system, Earth's galaxy, Earth's Local Group galactic cluster, and Earth's whole twelve-dimensional universe shebang.

The end was near, and Rabbiteen didn't care to watch the cosmos collapse from inside her cramped room in her parents' house in Fremont. Nor did Angelo want to meet the end in his survivalist bunker in the foothills of the Sierras near Fresno—a bunker which, to untrained eyes, resembled an abandoned barn in the middle of a sun-killed almond farm.

So, after a dense flurry of instant messages, the two bloggers had joined forces and hit the great American road together, blasting one last trump from the hearse's dirge-like horn, a mournful yet powerful blast that echoed from Rabbiteen's parents' pink stucco house and all through the table-flat development of a thousand similar homes.

Chastely sipping biodiesel through the apocalyptic traffic, they'd made it over Tioga Pass onto Nevada's Route 6 by midnight. They were out well ahead of mankind's last lemming-like rush to universal destruction.

"I've been obsessing over Peak Oil for years," Angelo confessed. He was feeling warm and expansive, now that Rabbiteen had promised him some pre-apocalypse sex. "As a search-term, my name is practically synonymous with it. But now I can't believe I was such a sap, such a pissant, when it came to comprehending the onrushing scope of this planet's disaster! I was off by . . . what is it? By a million orders of magnitude?"

Rabbiteen patted his flanneled arm supportively. Angelo was just a political scientist, so he was really cute when he carried on about "orders of magnitude."

He was rueful. "I was so worried about climate change, financial Singularities, and terror attacks in the Straits of Hormuz. And all the time the parallel branes were converging!" He smacked the Volvo's cracked dashboard with the flat of his pale hand. "I'm glad we escaped from the dense urban cores before the Apocalypse. Once people fully realize that cosmic string theory is unraveling, they'll butcher each other like vicious animals."

"Don't insult our friends the animals," said Rabbiteen, flirtatiously bending her wrists to hold her hands like little paws.

Rabbiteen's "What Is Karmic Reality?" blog cleverly leveraged her interest in scientific interpretations of the Upanishads into a thriving medium for selling imported Indian clothes, handicrafts, and mosaics.

Angelo, unable to complete his political science doctorate due to skyrocketing tuition costs, had left Stanford to run his own busy "Ain't It Awful?" website. His site tracked major indicators for the imminent collapse of American society. The site served to market his print-on-demand tracts about the forthcoming apocalypse, which earned him a meager living.

The end of the Universe had begun with a comment from trusted user "Cody" on Rabbiteen's blog. Cody had linked to a preliminary lab report out of Bangalore's Bahrat University. The arXiv dot-pdf report documented ongoing real-time changes in the fine-structure constant. Subtle dark and light spectral lines hidden in ordinary light were sashaying right up the spectrum.

Rabbiteen had pounced on this surprising news as soon as it hit her monitor, deftly transforming the dry physics paper into an interactive web page with user-friendly graphic design. To spice up her post for user eyeballs, she'd cross-linked it to the

well-known Cyclic Universe scenario. This cosmological theory predicted that the fundamental constants of physics would change rapidly whenever two parallel membranes of the cosmic twelve dimensions were about to—as laymen put it—“collide.”

Although Rabbiteen didn’t feel supremely confident about the cataclysmic Cyclic Universe scenario, that theory was rock-solid compared to the ramshackle Inflationary notion that had grown up to support the corny, old-school Big Bang.

Cosmologists had been tinkering with the tired Big Bang theory for over fifty years. Their rickety overwrought notions had so many patches, upgrades, and downright mythologies that even the scheme of a cosmos churned from a sea of galactic cow milk by a giant Hindu cobra seemed logical by comparison.

After Rabbiteen’s post, Angelo had horned into the act, following a link to Rabbiteen posted by that same user Cody on Angelo’s “Ain’t It Awful” blog. With the help of vocal contributors from a right-wing activist site, Angelo quickly unearthed a pirated draft of speechwriters’ notes for an impending presidential oration.

Tonight the United States President was planning to blandly deny that the cosmos was ending.

The leaked speech made commentary boil like a geyser on Angelo’s catastrophe blog—especially since, unable to keep his loyal users in the dark, he’d been forced to announce to them that their entire Universe was kaput. The likelihood of this event was immediately obvious to loyal fans of “Ain’t It Awful,” and the ripples were spreading fast.

“Listen, Rabbiteen,” said Angelo, tentatively slowing the hearse. “Why bother to find a motel? It’s not like we want to sleep during our last night on Earth. It’d be crazy to waste those precious few remaining hours.”

“Don’t you want to dream one more great dream?”

He turned his thin, abstracted face from the bug-splattered windshield, his expression gentler than she’d expected. “I’d rather post one last great blog-post. Exactly how many minutes do we have left in our earthly existence?”

Their Linux laptops nestled together on the gray-carpeted floor of the hearse, the screens glowing hotly, the power cords jacked into a luxurious double-socketed cigarette-lighter extension. USB jacks sucked internet access from a Fresnel antenna that Angelo had made from metal tape, then jammed on the hearse’s roof.

Rabbiteen plopped her warm laptop onto her skirted thighs. She scrolled through a host of frantic posts from her over-excited readers.

“Still almost five hundred minutes,” she said thoughtfully. “It’s two AM here, and the latest doom estimate is for ten-twenty AM local time. Hmm. This scientist woman net-friend of mine—Hintika Kuusk from Estonia—she says that, near the end, the force of gravity will become a quantized step function. Six minutes after that, the strong force drops to the point where our quarks and gluons fly apart.”

“And then the Big Splat hits us?”

“Full interbrane contact comes seven yoctoseconds after our protons and neutrons decay.”

“Seven yoctoseconds?” Angelo’s gauzy, policy-oriented knowledge of hard science was such that he couldn’t be entirely sure when Rabbiteen was serious.

“That’s seven septillionths of a second,” clarified Rabbiteen. “A short time, but a definite gap. It’s a shame, really. Thanks to our crude nucleon-based human bodies, we’ll miss the hottest cosmic action since the start of our universe, fourteen billion years ago. But, Angelo, if we hug each other ever so tightly, our quarks will become as one.” And with this, she laughed again.

“You think that’s funny?”

“I don’t know. Isn’t it funny? How could it not be funny? If I let myself cry, that’ll be worse.”

"There's no time left to weep and mourn, not even for ourselves," mused Angelo. "I realize that you approach the problem of death in your own way. That motto you posted—'the dewdrop slides into the shining sea.'"

Rabbiteen was moved by the proof that he'd been reading her blog. She clapped her glowing laptop shut and gazed out at the stricken moon above a purple ridge of low mountains. "The moon looks so different now, doesn't it? It's redder! The changes in the fundamental constants will affect all electromagnetic phenomena. No more need for fancy big-science instruments, Angelo. We can see the changes in the fundamental constants of physics with our own wet, tender eyeballs."

She wiped her eyes, smudging her lashes. "In a way, it's wonderful that everything will dissolve together. The mountains and the moon, the rich and the poor, all the races and colors."

The road's fevered white line pulsed against Angelo's pale blue eyes. When he spoke again his voice had turned grating and paranoid. "I keep trying for the high road, Rabbiteen, but I can't fully buy that this is the End. I've got a feeling that certain shadowy figures have been preparing for this. There are so many hints on the internet . . . You want to know the real truth about where we're going?"

"Tell me, Angelo." Rabbiteen valued his insights into human society, which was a system she herself had trouble confronting.

"Cody calls it the Black Egg. It's hidden in the Tonopah Test Range, a secret base in Nevada, right near Area 51. He says the fascist slavemasters have built a backdoor escape route out of our condemned cosmos."

"That's where we're headed?" said Rabbiteen, sounding dubious. "On Cody's say-so?"

"Those in the know have an inside track to the Black Egg survival pod against the collapse of the universe. As major intellectual figures on the blogosphere, we should definitely be going there, right? Why should we be left outside the Dr. Strangelove mine-shaft bunker when the lords of creation have their own transhuman immortality?"

Rabbiteen was unconvinced. "Oh, Angelo, why do you always blog so much about rulers and power? Everything's emergent. The old white men on top are helpless idiots. They're like foam on a tsunami. Can bacteria stop a bucket of bleach?"

"You're naïve," said Angelo loftily. "Do you think it's mere coincidence that we were contacted and guided by a heavy operator like Cody? You're a key blogger on weird physics, and I—I rank with the world's foremost citizen-journalists."

"But Cody is just some blog commenter," said Rabbiteen slowly. The frank lunacy of the Black Egg story made her uneasy. "Cody never seemed like a particularly helpful guy to me. He's more like a snoop, a troll, and a snitch."

"He's just geeky, Rabbiteen. Cody doesn't have a whole lot of human social skills."

"On my blog he comes across like a stalker."

"He told me he's a veteran working physicist employed on black-ops projects by the federal government. A lonely old man whose whole life has been top-secret. I had to work hard at it, but I've won Cody over. He never had any trace of freedom in his life, except for the internet. He thinks of you and me as his most intimate friends."

"Okay, fine," said Rabbiteen. "Why not the Tonopah Test Range? If that makes you happy."

But rather than smiling at her agreeability, Angelo was antsy. "I wish you hadn't said that. Now you've got me all worried. What if Cody is lying to me? All that amazing physics data could be clever disinformation. Maybe he's just some kind of crazy online pervert who, for whatever twisted reason—"

Rabbiteen aimed a brave smile at her friend's tormented face. "Look, that sign says Tonopah! And there's a nice little motel."

Angelo instantly slewed the heavy hearse into the dark, empty parking lot. De-



spite the late hour, the motel office door yawned open, with a trapezoid of light on the gravel.

Springy on his sneakered feet, Angelo hopped out of the hearse and into the motel office. Stretching the travel kinks from her back, Rabbiteen noticed a dull glow in the valley beyond this ridge. That must be the whipped old mining town of Tonopah. An all-but-defunct burg like that shouldn't be emitting so much flickering light and hot glare — oh, Tonopah was on fire.

Squinting into the distance, Rabbiteen could make out motorcycles, buzzing Tonopah's back streets like hornets. Some of the night-riders carried torches, leaving spark-spewing trails in the gloom.

"We don't want to stay around here," said Angelo, returning to her. Carefully, disturbingly, he wiped his feet on the gravel, leaving dark stains. Blood.

A vagrant breeze wafted whoops and screams across the dark hills.

"The owner's been killed?" said Rabbiteen. Hollowness filled her chest. "Oh god, oh god, I don't want to be slaughtered by psychos! I want to flash out with the Big Splat!"

"Don't panic," said Angelo, hugging her. "Don't panic yet." He stepped back and showed her a trophy tucked in the back of his belt. A forty-five automatic pistol. "You see, the owner was web-surfing. He had this handgun right next to his mouse—somebody lopped his head clean off while he was staring into his screen." Angelo handed her the pistol, butt-first. "The clip's full; that survival newbie never fired one shot in his own defense!"

Rabbiteen shuddered as she handled the weapon. Beyond the motel's sordid lot, a pair of monster trucks bounced side by side down the two-lane highway, their multiple headlights beaming crazed jittering cones. "Maybe we shouldn't go through Tonopah."

"I'll drive like a maniac, and you'll fire wildly," Angelo advised. "So it'll be fine. Let me give you the précis on this Colt military automatic. As a survivalist, I've logged a lot of hours on this model. It's easy except for the recoil. You hold it in both hands and gently squeeze the trigger. Try that."

Off at the edge of the motel lot, Rabbiteen saw a suspicious shadow. Something looping, boiling, rippling like heat haze. The head lopper? She hastily squeezed off a shot. The pistol kicked upwards with a flash and a deafening bang. The window of a motel unit blew out with a musical crash of glass.

Then, ominous, total silence.

If there had been any guests in this lonely motel, they were all gone. Or murdered. Yet there was still a roiling, phantom shape in the farthest corner of the parking lot. A midnight dust devil, or a smear of tears across her vision.

It was definitely time to go.

"Let's access some mash-up internet maps," said Angelo, powering up the hearse with a biodiesel splutter. "I know the Test Range is on the far side of Tonopah, but of course the site's fully concealed from the sheep-like American public."

Rabbiteen piled into the paint-blistered hearse with him, suddenly cheered by the utter recklessness of their plan. The last night of mankind's existence—how could it be any other way than this? Car doors locked, and windows up, smelly gun near to

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hand, she crouched elbow to elbow with her friend, connecting to the global mind, comforted by her talismanic laptop.

"Why do you suppose Google Maps doesn't even list any super-secret labs?" she complained.

Angelo toyed with the wheel, inching the car across the gravel, waiting patiently as a midnight slew of cars blasted from the darkness down Highway 6. "That's easy. I mean, I'm a dropout from Stanford . . . and Sergey and Larry are both dropouts from Stanford, too. But unlike me, they're covering for the Man! Because they sold out!"

"Oh, wait," said Rabbiteen, "Google just linked me to a nutcase map site with tons of great info. Hmm. The Tonopah Test Range is just past the Tonopah airport. It butts into Groom Lake where people see, like, aliens from other dimensions. And, get this, the Test Range has their own secret part, and that's *Area 52*."

"Wow," said Angelo. A raging eighteen-wheeler spattered gravel across their windshield. "That's one digit higher than 51."

Rabbiteen's iPhone emitted the stunning CLANK CLANK of a steam hammer. She'd once missed a vitally important instant message, so her alert preferences were set to maximum stun.

She bumped her head on the grimy dashboard as she lunged for her sleek device. "It's Cody! Cody is trying to hit me!"

"Hunh," said Angelo. "Don't read it."

"I hot 2 c u 2 n4k3d," read Rabbiteen. She glared at Angelo. "Hot to see you two naked? What does that mean? What on earth did you tell that guy?"

"I had to social-engineer him so he'd help us break into the Black Egg. Like I said, Cody is a very lonely old man."

"You told him that you'd post photos of us naked?"

"No, I didn't say that exactly," said Angelo, his voice almost wistful. "It's worse. I told him I'd stream us having sex on live webcam video." He straightened his shoulders. "I had to tell him something like that, Rabbiteen. I lied to him. And, really, at this point, so what? What possible difference does it make? The whole universe is about to melt."

Rabbiteen frowned down at her pistol, turning it over in her hands. She was momentarily tempted to shoot Angelo, but stifled the impulse. It was amazing how many user-friendly little clicks and snicks the pistol had.

"Anyway, my gambit worked on him," said Angelo. He patted the iPhone, which lay on the seat, its message still showing. "See the digits on the bottom of the screen? Cody also sent you the GPS coordinates to the site."

He punched tiny buttons on a squat plastic gizmo suction-cupped to the dash of his hearse.

"Continue Highway 6 through Tonopah," said the genteel female voice of Angelo's GPS navigation unit. "Turn right at unmarked dirt road number 37A."

Jaw set, Angelo peeled out of the lot and barreled through the crumbling heart of the stricken desert settlement. Knots of drunken, flare-wielding marauders were barricading the streets with smoldering debris. Angelo accelerated through a flaming police sawhorse, and Rabbiteen braced her heavy pistol in both hands, firing wildly and shrieking flamewar abuse through the open window.

Overawed by the style of the loons in the hearse, the rioters let them pass.

Then they motored sedately through the eastern outskirts of blacked-out Tonopah, past burning tract homes and empty desert shacks, past the silent airport and the abandoned mines.

As they turned off onto the dirt side road, Rabbiteen mimicked the feminine voice of the GPS navigator. "Suggestion. What if I posted naked pictures of myself with this gun?" She shoveled in a fresh chew of betel. "What kind of user response would I get?"

"You mean if your users weren't torn apart into their constituent quarks?" Angelo smiled and took her hand.

He was feeling buoyant. The world was definitely ending, in fire and blood just as he'd always guessed, yet he'd finally found a woman meant for him. With that sweet, frank way she had of cutting to the core of an issue without ever delivering anything useful, Rabbiteen Chandra was the very soul of bloggerdom.

His last night on Earth felt as vast and endless as a crumpled galaxy, while the full moon had gone the shape and color of a dry-squeezed blood orange. The clumps of sage were pale purple. The world Angelo inhabited had finally come to look and feel just like the inside of his own head. Incredible to think that he and Rabbiteen might be the last human beings ever to witness this landscape. It was as if they owned it.

"Isn't that a guard house ahead?" said Rabbiteen. "If you want to crash through that, I can lay down some covering fire. At least till I run out of bullets."

The GPS crooned sedately from the dash. "Proceed though Security Gate 233-X, traveling twenty-two miles further into the Tonopah Test Range to destination Area 52."

"I'd hoped Cody would be waiting for us at this security gate," said Angelo, slowing the hearse. "But I guess he never leaves his supercomputer console." His nerves were fraying again. "The guards around here are brainwashed killing machines. Mindlessly devoted to the fugitive neoconservatives of the Area 52 escape pod. If I stop, they'll extradite us to Guantanamo. If I pull a U-turn, they'll chase us down with Predator aircraft. If I barrel through the gate, we'll smash head-on into their truck-bomb tank traps."

"Oh, stop talking like that," said Rabbiteen. "It's 3 AM on their last night on Earth! How devoted to duty can those guys be? Don't they have any girlfriends? Or kids?"

The glum little concrete guardhouse that defended the Test Range was in fact deserted. The razor-wire chain-link moaned in the wind and the striped traffic arm pointed uselessly at the starry sky.

The hearse rolled into the empty desert compound, the narrow military road gently curving around peaks that sat on the sand like giant Zen boulders. Here and there old war-gamed jeeps had been shot to pieces from helicopters. Except for this ritualized military debris, there was only the moon and the mountains, the silence broken by periodic updates from the GPS unit.

To cover his growing embarrassment, Angelo propped his laptop on the dash. Automatically he clicked for his blog. "Oh my God!"

Terror gripped Rabbiteen's heart. "What? What now?"

"Look at my traffic spike! My Webalizer stats are right off the charts! Drudge Report, Boing Boing, Huffington Post, they're all sucking my dust! I rule the net tonight! Everybody's linking to me!"

"How about my blog?" she asked. "I blogged the Big Splat before you did—"

"This is fantastic!" continued Angelo. "I'm finally fully validated as an independent citizen journalist!"

Rabbiteen jealously moused around his screen. "Dammit, my own site has totally crashed! Why doesn't your traffic max out when you get Slashdotted so hard?"

"My 'Ain't It Awful' site is scalable, babe. I pay full service on the Amazon web-cloud and they just keep adding servers. This is the last night on Earth. No one will ever beat my post for traffic. I'm the greatest blogger in the history of the planet."

Rabbiteen considered this boast. Though galling, it had to be true. Her boyfriend was the greatest blogger in the world. Except nobody would really call Angelo her boyfriend, because they'd never even kissed.

Feeling letdown, she stroked the glossy screen of her iPhone, scroll-flicking her

way through a rolling list of friends and landing on, why not, Prof. Dr. Hintika Kuusk, the Estonian string theorist. Dr. Kuusk was a kindly, grandmotherly scholar; a woman of the world who'd always been very kind to the gawky physics enthusiast named "Rabbiteen Chandra."

Rabbiteen pecked out a text message on the phone's eerie virtual keyboard. "About to have sex with Angelo Rasmussen inside Area 52."

She thumb-smearred SEND and launched her confession into cellphonespace. She was glad she'd told a confidante. Blogger that she was, it always felt better to tell somebody than to do something.

Moments passed, and then the phone emitted its signature clank. A sober incoming reply from Hintika Kuusk: "Fare thee well, Rabbiteen."

"Farewell 4ever Dr. Kuusk," typed Rabbiteen, her heart filling. She slid a glance over at Angelo, who was steering with one hand while trying to type with the other. She considered cozying up to him and working her wiles, but just then, with another clank, here came a mass-mailing to Hintika Kuusk's extensive buddy list: "OMG OMG OMG! Rabbiteen-Karmic-Reality is hooking up with Angelo-Aint-It-Awful!"

Within seconds, a follow-up fusillade tumbled onto Rabbiteen's phone display and laptop screen—from handhelds, from Twitterstreams, from MySpace pages—gossipy whoops and snarks, cheerful shout-outs and me-toos, messages from half the women Rabbiteen knew.

Angelo glanced over, his eyebrows kinked. "What's the excitement?"

"Oh, it's just my silly, romantic women friends. Don't let me distract you from fondling your famous blog."

Angelo was gentlemanly enough to close his laptop. "We're being fools. What do you say we pull over now?"

He tapped a button on the GPS unit for a distance update. "Area 52 is now twelve miiiii—" The robotic voice twisted into a sudden anguished squawk. The device sputtered, chirped, and went dark.

Reflexively concerned about any loss in connectivity, Rabbiteen lifted her cell phone. Its display had gone black. "Those wonky Apple batteries . . ."

"Try your laptop?" said Angelo.

Rabbiteen read from its screen. "You are not connected to the internet." And then, like a cranky, spoiled child finally falling asleep, her laptop, too, went dark.

And then—oh dear—the car died.

Wrestling the stiff power steering, Angelo guided them to rest in a curved billow of roadside sand.

It was quiet here, so very quiet. The wind whispered, the red moon glowed.

Rabbiteen spoke aloud, just to hear her own voice. "I was sort of expecting this. Electrical circuits can't work any more. Too much drift in the fundamental constants of electromagnetism."

"Like a power failure affecting the whole Earth?" said Angelo.

"It's much more than a power failure. And it's not just our sweet little Earth. It's the entire universe."

Angelo sighed. "For years people called me paranoid. Now I finally know I was a realist. I was truly perceptive and insightful. I was never a fringe crank intellectual, I was a major public thinker! I should have had a wife, kids . . . I should have had tenure and a MacArthur Grant."

Should Rabbiteen declare her love for him? It was on the tip of her tongue. He was oh so close in the rosily moon-dappled car. She reached out and touched his face.

"There's one important part I still don't get," said Angelo doggedly. "Aren't our nerves electrical? We should be fainting or passing out. But I'm still thinking—and my heart's still beating . . . It's beating for you."

"Human nerves are mostly chemical," said Rabbiteen, her voice rising to a squeak. She made a lunge for him. At last they kissed.

"We could lose our ability to think and feel at any moment," Angelo said presently. "So it's the back of my hearse, or it's the sand. Unless you want to get out and hunt for Cody's Black Easter Egg."

Rabbiteen turned and gazed behind herself. The hearse did have white silk ruffles. In the weirdly altered moonlight, those were kind of—romantic.

As they bucked against each other, bellies slapping, vivid and relentless, it occurred to Rabbiteen that she and Angelo were just like the two cosmic branes.

It could be claimed that the once-distant branes were violently colliding, but that was a very male way to frame what was happening. If you laid out your twelve-dimensional coordinate system differently, the branes passed through one another and emerged reenergized and fecund on the other side of that event.

It was like the urge to have sex, which was loud and pestering and got all the press, as opposed to the urge to have children, which was even more powerful, obliteratingly powerful, only nobody could sell that to men.

Afterward came the urge to abandon all awareness and slide into deep black sleep, which no one could resist. Cuddled in the sweaty crook of Angelo's arm, Rabbiteen tumbled straight over the edge of nightmare.

She saw a lipless, billowing, yellow-eyed face peering into the side window of the hearse. Its enormous mouth gaped in woozy appetite, yawning and slamming like some drug-drenched door of perception. The otherworldly visitation of a Hindu demon. Had she dreamed that?

"Angelo!" She poked his ribs.

But he was off-line, a blissful, snoring mass. She retrieved the gun from the front seat, and stared with grainy-eyed, murderous intent into the moonlit desert. Despite her fear and wariness, she couldn't keep her lids open.

Red distorted sunlight woke them through the windows of the hearse.

"Oh no, here it comes!" yipped Angelo, sitting up with a start. He'd mistaken the rising sun for the final cosmic conflagration, and not without reason, for the solar disk was ten times its usual diameter, and the light it shed was as dim as the clouded gaze of a stroke victim.

The world outside their hearse was rendered in faded Technicolor. The skewed interaction between light, matter, and their human retinas was tinting the sage red, the sand a pale green, the sky canary yellow.

With icy, tingling fingers, Rabbiteen grabbed Angelo's wrist, trying to read his watch. "It can't already be time for the end, can it?"

"My watch has a wrecked battery now," said Angelo. "But if the sun's coming up, then it must about six AM, right? We've still got, what, four hours to hunt for the Black Egg."

Rabbiteen's bare belly rumbled. "Do you have any breakfast?"

"Of course! Angelo Rasmussen is the Compleat Survivalist. I don't always have great sex with gorgeous Californian tech chicks, but I always have food and water."

As she preened a little, he dug into the wheel-well. "Here we go. Fruit-leather and freeze-dried granola."

They munched companionably, sitting with their legs dangling out the hearse's open back door. Rabbiteen felt happier than ever before in her life, out of her mind with head-over-heels, neck-yourself-silly romantic bonding. It was beyond ironic that this would happen to her just now.

"Do you really think a lame stalker like Cody could dodge the Big Splat?" she essayed. "I'd love to hope that's the truth. I mean, now that we're together, it would be such a great ending if somehow—"

"Not looking good," said Angelo, staring into the particolored desert gloom. "If

Cody's story was for real, we should see scads of black helicopters flying in here, with all kinds of fat cats saving themselves from destruction."

"Even your *black* helicopters can't work today," said Rabbiteen a little impatiently. "It's not just the batteries, Angelo. It's spark plugs, ignition, control chips—everything. No electrical machine will ever function again." Seeing his stricken look, she tried to soothe him. "Maybe all the refugees are here already. Maybe they're all crowded into the brane collision survival pod. Imagine the fun when they see us."

"The Black Egg of Area 52," said Angelo, drawing fresh strength from the idea. "Let's walk there."

"I'm ready. We'll walk to the end of the earth."

Angelo loaded a stained khaki knapsack with food and water, daintily lotioned his skin, and even produced a couple of wide-brimmed hats, blister packs, and a telescoping metal walking-stick.

"Rabbiteen Rasmussen," he murmured as they gamely trudged the sandy road. "What a fantastic name. That would be a king-hell blogger handle."

Rabbiteen's heart glowed with joy.

They came to a fork in the troubled road—with both alternatives equally bleak. "My compass is useless now," Angelo griped. "Also, I think the sun is exploding."

Indeed the swollen, ruddy sun was spiky with fractalized flares. Its face was mottled with dark writhing sunspots, vast cavities into the star's inner layers. Old Man Sol was visibly breathing his last. It was like seeing a beloved parent succumb to a disfiguring disease.

They picked the road to the left and slogged forward.

Rabbiteen's love-smitten psyche was bubbling over with happy thoughts, yet the fear goblins ran fast behind, eating them. Compulsively, her mind returned to that demonic toad face she'd glimpsed in the midnight of her soul—but she didn't share this inner terror with Angelo. He'd only make fun of her or, worse, drive himself frantic with speculation.

Their few remaining moments of togetherness were passing all too fast. There was no sign of any secret base, or of any human beings at all. They were trudging endless, badly colored terrain in utter forlornness, like the last two holdout players in some outdated internet game.

Angelo was stumbling, leaning heavily on his fancy high-tech walking stick.

"My feet are asleep," he complained.

"Me too." Rabbiteen rubbed one tingling hand against another. "I guess—I guess the changes in the electrical constants are finally getting to our nerves and our bodies." Against her will, a sudden wail forced itself from her. "Oh, Angelo, do you love me?"

"Did I forget to say that? I get so distracted sometimes. Yes, I love you. I do love you. I'd post it in letters of fire bigger than the sun."

This declaration revived her a little; they wobbled on, teetering on their rubbery ankles.

Angelo was thinking hard. How strange it was that a woman's welcoming body could nail a man to the fabric of space and time. This was a mystical proof to him that sexual intercourse was an inherent part of the fabric of the universe. His brain was working very fast—as if some kind of electrochemical friction had vanished inside his skull—but the fringes of his nervous system were fading. It was terrible to know he would soon die, and worse to know that Rabbiteen's kindly, ardent body would smear across the cosmos like a spin-painting.

"Look!" she cried. Another unguarded, open gate. They tottered through, their knees wobbling. In the fractured, crystalline distance they could see sun-blasted buildings and a sandy airstrip. "It's too far," added Rabbiteen, bursting into tears. "And we're too slow! We won't make it."

They sat in the shadow of a boulder, arms around each other, awaiting the end—or the strength to rise and slog on. But now a deep rumble filled their ears. Sand rose into the air as if blown by an impalpable gale; rocks flew off the mountains with the ease of tumbling dice.

The two lovers fell upward.

There was frantic, incomprehensible activity all around them, as if they were mice in the grinding engine of a merry-go-round. Like the maculated sun overhead, the planet's surface had come unmoored. Geological strata had gently unpacked like the baked layers of a baklava, sending the surface debris crashing about in search of new equilibria.

Eerie pink sunlight glittered from the hearse's window as, plucked from beyond the horizon, it tumbled past them, its hood and doors slamming rhythmically, bouncing up the slopes of the nearest peak.

In ordinary times, the earthquake noise alone might have crushed their clinging bodies, but the booming of this planetary destruction was oddly muted and gentle. The fundamental constants had plateaued for a moment. A new order of gravity settled in, with everything that could come loose from the Earth being messily sorted according to its mass.

Belatedly, a reluctant mountain tore itself loose and rose ponderously into the lemon sky.

Rabbiteen and Angelo were floating a few score yards above the remains of the ancient desert—a patch of fine dust beneath a layer of sand with pebbles admixed, topped by bones, sticks, stones, and target-range military rubble.

A venomous little Gila monster tumbled past them, dislodged from some flying mountain redoubt, its stubby tail twisting, its skin glittering like a beaded arm-band.

Angelo's blown mind irritably snatched for facts. "Are those nerve-gas canisters up there? They're like weather balloons." He beat his helpless legs against the empty air and began to twist in place. "Can you explain this to me, Ms. Karmic Science?"

Rabbiteen's mind had frozen with awe. The mountains of the firmament were floating across the spotted face of the bloated sun. She had no way to think clearly—with thunderhead shelves of granite and feldspar poised to crush her.

"Hold me, Angelo! You're drifting away! I want to be with you till the very end!"

"We're doomed," said Angelo. He squinted into the hazy, polymorphous distances. The stark concrete hangars and wooden shacks of Area 52 were piled in midair like badly assembled Ikea shelving.

The humbled remnants of the secret federal base showed no signs of life. No super scientists, no fat cats there, no Black Egg. All those cogent hints about close encounters in the American Southwest with psychic saucer-craft, and nobody was even here. People were so cynical about the miraculous that they couldn't even bother to show up.

"I can almost feel that other brane arriving now," said Rabbiteen. "Once the force of gravity has changed, we only have six minutes."

"Cody!" hollered Angelo, his voice echoing off the floating islands of stone. He cupped his hands around his mouth. "Help us, Cody!"

"Come on, Cody!" shrieked Rabbiteen. Giggling shrilly, she grappled at Angelo. Her fingers were numb, and the flesh of his neck and shoulders felt spongy and strange. "The desert's so beautiful, Cody! Especially upside down! We had great sex, and next time you can watch us, I promise!"

"Cody, Cody, Cody!!!"

A lens-like shape formed in mid-air, magnifying the tumbleweeds and boulders. Slowly, it opened a dark throat.

"Hello?" said Angelo.

The blackness folded in on itself and took form. The hole became crooked, then everted, like a giant origami tentacle. It swayed around in mid-air like a hungry feeler.

It took note of the two of them.

The warped tentacle wriggled and dimpled; the tip flexed to assume the shape of a staring, glistening face. Complex forces within the bulging shape were manipulating it like a sock puppet. The eyes bulged like a rubber mask, the mouth stretched and gaped like a toad's.

"Cody?" said Angelo, yet again, one arm wrapped around Rabbiteen. "Are you here to save us?"

The demonic toad twisted his head this way and that. He had large, golden eyes. "Do I look properly embodied within your planet's three spatial dimensions?"

"No!" Rabbiteen squeaked, stiff with unearthly terror. "You look like hell!"

"Interaction was so much easier on the internet," said the toad, smacking his thin lips. "It's a lot of trouble to manifest this low-dimensional form to you." The creature's voice was modulated white noise, like sand sculpted into letters.

"I saw him last night, Angelo," cried Rabbiteen. "I saw him peeking into the hearse! And he was in the motel parking lot. Cody was stalking us."

"I was monitoring you," said Cody, his head billowing like a black pillowcase. "You two alone have reached Area 52, naturally selected from the many billions on your planet. You are like sperm cells beating their way up a long canal—"

"—to reach the Black Egg," completed Angelo hurriedly. His molecules felt overstretched. "Okay, yes! Here we are! Let us inside!"

Cody leered at them provokingly. "The Cosmic Mother," he said, "is the immortal entity that fills the band of hyperspace between the twin branes of the cosmos. I am the tip of one of Mother's many tentacles. If you can imagine that."

"Of course we can imagine that!" jabbered Rabbiteen. "Don't let us die!"

"Let us in," repeated Angelo. His fingers felt and looked like orange circus peanuts.

"This Black Egg is prepared for you, my blogger friends," said Cody simply. "The universe is collapsing, so the Cosmic Mother has placed a Black Egg on every space and place that supports intelligence. Billions of eggs, spewed in the cosmos like dew-drops in the shining sea."

"Oh Cody," said Rabbiteen, "you read my blog too."

"Of course I do. Physics is collapsing, but the network will persist. All the Black Eggs are linked via quantum entanglement. Telepathy, if you will."

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Momentarily, Angelo forgot his fears. "Wow, I always wanted some telepathy." "There's also infinite connectivity and infinite storage in the network of eggs," Cody evangelized. "The network has an infinite number of users. They're all upset and angry, just like you, because they're all indignant to see their universe collapse. They all believed they were the most important aspect of the universe. Imagine the confusion. We have an infinite number of anthropic principles—one for each race!"

"Then you'll need moderators," said Rabbiteen practically. "You need some users that know how to link and comment."

"Absolutely we do," said Cody. "This cosmic cycle was planned out and architected rather poorly. It's closing down much earlier than the Cosmic Mother expected. Instead of crashing like this, the universes are supposed to get more stable with each new release."

"We're just the kickass bloggers you need!" crowed Angelo. "We can keep up our moaning and complaining for millions of years! Assuming that we're rewarded for our efforts. I mean—is there any kind of revenue stream inside there?"

"You'll lack for nothing inside your race's Black Egg," leered Cody. "Except your human need to eat or breathe. There will be sex, of course. There's always sex on the Net. The Cosmic Mother adores sex."

"Wow," said Rabbiteen.

"Now come closer to me," said the toad-headed tentacle. "Technical detail: your Black Egg is a hyperdisk where the branes are riveted together via a wormhole link in the twelfth dimension. In this one special region—it's down my gullet—the branes can't collide. I know your primitive minds can't understand that. Think of me as a pinecone that protects a tree's seeds from the heat of a fierce wildfire."

Angelo shook his bloating hands. "Never mind the license agreements, just sign us up and log us in!"

Rabbiteen had to annotate. "Really, Cody, I think it's more accurate to say the cosmic branes pass through each other serenely."

"Ah, you refer to the Twisterman coordinatization," said Cody, his bloated demon head expanding with a ragged jolt. "Yes, under that viewpoint, we'll all be transformed into our mirror-images. If you calculate in terms of the diffeomorphic quiver bundles, then it's—"

"Hurry up!" screamed Angelo—losing his composure as his left thumb snapped off.

"Fine," said Cody. "Over the next ten million years we can discuss these issues fully." His wide mouth gaped open. The inside looked dank and slimy.

Rabbiteen felt another flicker of unease. Could it be that Cody was an underworld demon after all? Under his promise of cosmic transformation, was he luring them to a fate infinitely worse than mere death? Would the toad behave any differently, if he were doing that?

Cody waited with his silent mouth agape.

Up in the sky, the sun went out. The stars and moon were gone as well. Utter darkness reigned. A shrill buzz filled the nonexistent air and slid menacingly down the scale.

Pressing together, Angelo and Rabbiteen crawled into the toad's mouth. Pushing and pulling, moving as one, the lovers wriggled their way down to the womb of the Black Egg. And of our world they saw no more.

Within the Egg's twelve-dimensional kalpas, time and space regressed. There was neither room nor duration in which to hunger, to tire, or draw a human breath. Yet in another sense, this was a weightless and limitless utopian paradise in which happy Neetibbar and wry Olegna could gambol and embrace.

The mortal races of the next universe would occasionally comment on two glorious superclusters, titanic arcs of creative energy stenciling the void like a net—sharp and sleek, stable and sweet, weaving the warp and weft of the reborn cosmos. ○

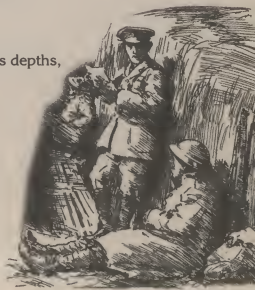




## THEY BELIEVED IN FAIRIES DURING WORLD WAR ONE

They believed in fairies during World War One.  
The first generation of young men  
to grow up on Peter Pan,  
really did try to believe  
amid scenes of unimaginable pain and horror,  
and steal glimpses of beauty and impossible hope  
on creased postcards and cheap prints  
stained with the mud and blood  
of Flanders or Gallipoli,  
while the air about them swirled with lethal gas,  
or stank of cordite and the unburied corpses  
out in No Man's Land.  
But none of them found their way into Fairyland.  
The way there is long and hard.  
If you try to walk the distance  
True Thomas rode, you walk to your grave.  
If you try to make your mind still  
as a secret pool, and wait  
for Fairyland to rise up  
like a bright bubble out of the mysterious depths,  
you will likely be disappointed.  
What you seek is a miracle,  
and miracles, by their nature,  
are arbitrary, which is why  
Fairy Queens are noted,  
not only for their exquisite,  
unworldly beauty, but for  
their haughty, heartless cruelty.

—Darrell Schweitzer



Carol Emshwiller takes a painful look at the collateral damage sustained by innocents like . . .

# THE BIRD PAINTER IN TIME OF WAR

Carol Emshwiller

I paint birds in enemy territory. I risk my life to paint them. My people are desert people. They think I've made the birds up—that I'm painting fairy tales just so I can sell them to the gullible. I don't think I could invent such fancy birds by myself. So far I've only been able to smuggle some feathers to prove to my own people that there do, indeed, exist birds of a beauty they've never even thought of.

The enemy farmers know I'm a foreigner but they don't guess where I'm from. I ask, with some of their words and with drawings, if such and such a bird is around. I pay them in pictures. I don't have any of their kind of money. I don't even have my own kind. That would be a sure giveaway.

If their soldiers catch me, they'll take me for a spy. They'll think my paintings full of secret messages. Who cares about birds? they'd say. And they'd be right. Who does? Not very many in any country.

I doubt if I'd have the energy or the will to defend myself. I stutter. Even more so when I'm nervous. The birds don't care. I can imitate their calls. I can whistle, squawk, quack and squeak. I'm good at those, no problem.

I eat what comes to hand but I won't eat birds. I can usually find tree ears or chanterelles and there are roots. But I won't eat quail or duck or sage hen as most do. I do eat fish and crayfish.

I used to photograph wars, but that was before I looked up, not for the hiss of a mortar but for a different, exciting sound, and there, in long lines, were the snow geese flying north.

That was a long time ago, and an entirely different war.

I prefer the people here where I don't talk their language that well. Then not talking is normal. A silent cup of tea with gestures. A place by the fire on a rainy night. These people are not great talkers, anyway. I and the farmer can sit and smoke and nod, his wife and children nearby, happy, or so it seems, for each other's silent company.

If I see a good barn I may not even ask. I may just bed down there secretly. Of course there'll be a dog, but I'm good with dogs. I always sit a bit before imposing myself on their space. Sometimes I manage to get out a series of Gs. Guh, guh, ghu, ghu, good dog.

Children ask what's wrong with me. I always say, "L, l, l, *lots* of things."

To avoid detection, when I leave my desert for their mountains, I always cross the border where the cliffs are steep and the forest thick. It's not easy with my folio and sketch books on my back.

After climbing the ridge, I'll hit the road to the village. I never get far. I'm always looking down at the plants along the roadside, as much as I look up to see what's flying by. I don't bother with the names of either birds or plants. Words are my adversaries. Besides, the names will be different in their language.

It's the perfect time of year. All sorts of birds are passing through. Half way up the hills on their side of the border, I stop, turn around and rest. I can see the tops of the flags that fly from their fort just below me. I'm well past their lines. From now on I'll just look like one more farmer with a big bundle.

But there's not a single bird call nor rustle of ground squirrels. I hold still—just as everything else does. I hear the snap of twigs. Something's happening just above the fort.

Then I see soldiers in the colors of my own side, circling past not far below me. They're going to hit from behind, where the cliffs look down on the fort. They'll drop mortars right into the central courtyard.

These days forts aren't worth much. I don't think the enemy uses this one for anything but barracks. Those cannons along the ramparts are a hundred years old. I heard reveille as I passed by. The enemy will be there. My side could do a lot of damage.

I wonder if I should try to warn the enemy. What would save the most bloodshed? I climb higher, wondering what to do.

But then I hear a sound from above. I stop again. Hold still . . .

. . . and a soldier backs up right into me. This time a soldier of the enemy, looking down on those skulking soldiers of my own side. He's alone, but loaded down with rifle and grenades.

At first I think a boy and I think, does the enemy use children as its soldiers? But I start to suspect. I look down at her body.

She sees my look. "Yes," she says, in the enemy language, "I am," and points her gun at my chest. "What are you doing out here? Trying to sneak across the border?"

Exactly what *I am* doing. Of course what I answer is my usual. "I, I, I, I."

"What's in your bundle?"

I hand it to her. She moves away, tries to keep her gun on me and open the bundle at the same time. Not easy.

Then she forgets all about the gun. She even forgets about me.

I have two smaller paintings I brought with me to trade for a meal, or a bed in case the weather turns bad. One is of the bird I call a golden wing. The other is of a pair of black and white longtails with red heads. I tried to capture the luminosity of their throats. There are flowers in each painting. People like that. In one there's dew on the petals and a sunrise in the background. They're not completely realistic. After all, I was a photographer, I got tired of reality.

She can't stop looking. Ten . . . maybe fifteen minutes. I sit down. Later she turns to me, a look of wonder on her face. All she says is, "You!"

I nod.

She sits beside me, the paintings at our feet. She gives three big sighs in a row, says, "I'd like to forget all about the war. I'd like to run away and never come back."

I keep nodding. I don't want to have to try to say anything.

She looks at me again—all admiration. "Easy to see you're not a soldier."

Then she looks at the signature.

My name will tell her I'm a foreigner.

"Nor. Nor? Where's that from?"

I took that name from the word for bird in my language.

I don't lie. "I, I'm yu, yu, your . . . enemy."

"Not *my* enemy."

Hér eyes are greenish blue.

Then, below us, the bombardment begins. My people against her people.

She picks up her rifle. She's about to take off, but I grab her arm.

"N, n, n, nothing you can d. . ."

A trumpet sounds down in the fort.

"You're trying to save them."

"No. S, s, save. . . *you!*"

But she twists away and off she goes.

I pack up my paintings and head up. I want to be back where the birds are singing.

I need to paint. It calms me.

I don't stop until the sound is muffled and distant and until I start to hear birds again and the rustle of ground creatures.

I get out my sketch pad and a crow quill pen and sit, hardly moving. And soon, here comes a redheaded yellowbeak with topknot and right behind him his drab but, in her own way, equally beautiful mate. I start to sketch, then give each drawing a wash of watercolor, wait a few minutes until they dry and pack up.

I was concentrating so hard I didn't notice that the distant explosions have stopped, though there's a volley of rifle shots now and then.

I climb out on a jutting rock. I'm almost at the top of the cliff. Behind me is the high flat land of the enemy. I watch the sun setting across the valley where my people live. I watch a flock of snow geese fly by. I hear them. They're low, getting ready to land for the night. I watch until even the stragglers pass. Then I climb below the jutting rock and lie down.

I wonder how things went at the fort and with the girl. I wonder if she's still alive or if she rushed in, threw her grenades and was shot right away. I hope she had more sense.

Can a mere bird painter rescue somebody? Especially a bird painter who can hardly talk?

I feel bad that I let myself spend the afternoon sketching—making myself forget while others were in danger and maybe pain . . . of course it's pain they've gotten themselves into. Even she. But the joy on her face when she looked at my paintings! And then at me! It's enough to make me fall in love. But I don't ever let myself. How could I say what needs to be said? With secret signs and hand signals? A wink? A leer? Maybe with a parrot on my shoulder to talk for me in squawks? I refuse.

Besides, I have my birds.

But could I rescue?

I give up on sleeping.

I can at least see if she made it down to her own people. After I find out, I'll escape back to my solitude.

I leave my bundle under the jutting rock. No moon. There's an owl. That reassures me. I disturb things that skitter away. Then I trip and fall flat. Branches scratch my face. I hit my chin on a rock and almost knock myself out. There's a mini landslide. I make a terrible racket. I lie still and listen.

Nothing.

But right after that, my own side captures me. They don't treat me very well. Before they ask me anything or try to find out who I am, they throw me down and kick me a few times. Then bring me to a bonfire and to a colonel. I stutter more than usual. I don't make any sense at all. They take me for a moron—it's not the first time—and chain me to a tree.

I'm worried about my paintings and sketchbooks under that overhang (they're not well hidden), but I'm mostly worried about the girl. I don't even know her name. I can't ask about her. But then I can't ask about her anyway. They don't have time to listen to me trying to get the words out.

In the morning I open my eyes to white feathers. A fog of white. Tiny bits of down. I'm hurting and stiff but I'm charmed. Enchanted. It's as if I've found my way into a bird world. I sit up and then I realize there's nothing to be enchanted about.

Every little group of soldiers has a campfire with a spit and something cooking. The battle was long over, but that evening they had nothing else to shoot so they shot the snow geese as they came down low, looking for a resting place.

They eat and then bring me their leftovers, but, hungry as I am, I won't eat snow goose.

Finally they unchain me, bring me down to the ruined fort where they've set up headquarters. The outer walls still stand, but inside it's a mess. The inner walls are stone, too, but the roofs were mostly wood and they're splintered and broken. Everything in the rooms is scattered and covered with debris.

They have ways of hurting that don't leave a mark. If I could think of a secret I'd try to tell it to them, but I never pay attention to anything except birds and flowers. And the more I need to talk, the worse my sputtering gets. I find myself making the bird sounds that come to me so easily, quacks and screeches and squawks.

Afterwards they don't bother tying me up. They let me lie in the courtyard. Discarded. Soldiers walk back and forth around me and don't pay any attention.

Later I hear somebody calling, "Nor, Nor. Get up, Nor. Please. Can you get up?"

It's dusk. The fort is quiet. Quieter than it should be, not a soldier in sight. It seems the army has left for some other battle.

"Nor."

I know who it is.

I stand up and hobble over to a tiny window in a stone wall. She reaches out. I grab her hand. Without thinking I kiss it and then hold it to my cheek. Then I worry about what I've done, but she reaches with her other hand and places it over my hand. Perhaps words aren't so necessary after all.

"Are y, y, you aw. . ."

"What have they done to you? You look. . ."

I'm thinking: Nothing you can see, but then I remember my bruised chin and scratched face from my fall.

"They've gone," she says. "Can you let me out?"

The door is chained shut, but I use a piece of debris as a crow bar and pry the hinges out.

We run out the broken gates, around the fort, and start up behind it. I'm yet again climbing the cliffs at the hardest place. I know the way well but now I'm hurting. I wonder if I have a cracked rib.

It's exactly under that jutting rock where I hid my things that we finally stop, and there's my bundle, slashed. Everything scattered. My paintings are not only cut, but shot at. I suppose the next best thing to shooting real birds is shooting paintings of them. They burned the sketch books. Just the metal rings are left. They cooked another snow goose there.

I sit down, discouraged. It's the girl that yells, "Oh no! Oh no!" over and over. She runs around gathering up pieces and trying to fit them back together.

I say, "D, d, don't."

She says, "But I want these. Can I have them?"

I shrug.

I sit beside the dead campfire, while the girl, on her knees, keeps trying to piece together parts of the paintings and I finally remember to ask her name. It's Milla. I think it means cloud. It fits her.

She keeps looking up at me with the same admiration as before and I realize I've done it—I've actually rescued her. If not for me coming down for her, who would have been there to let her out?

She pieces together about half of one of my paintings. The middle is full of bullet holes and cuts.

"Look. The sunset and the flock of ducks in the distance is still there. I want it. Please."

"C, c, 'course."

"Except you could sell this as it is."

"No. You c, c."

"But what can I do for you that would be worth as much?"

"N, n, no."

Then we hear honking way above us. Another batch of geese, but high. You can just barely hear them.

Then there's gunfire below us. None of the geese fall, they're way too high. Somebody is shooting just for the fun of it. It stops after the geese pass, but the shooters are so near, we think we'd better get out of there.

But they've heard us. They start shooting in our direction before they know which side we are, or we them. We flop down flat.

But it might be my own side.

I stand up. I shout, "S, s, stop," in my own language.

Behind me Milla shouts, "Stop," in her language.

Good. We have both languages going. Then one of them says, "Stop," in the enemy's language. It's Milla's people.

Right in front of me, and in flower, is the bush the hummingbirds love best, and there, the hummingbird. How can it be? Right between shots? I still have a red feather in my button hole. I don't know how it lasted here through all this. The bird hovers over it. I stand still. It hovers over my face. Checking, am I food or not? Perhaps my scratches are red enough to tempt it.

I come to, to someone crying. I'm comfortable. There's a pillow. There's a feather bed. I think: Some day there will be nothing to cry about. Or at least there'll be no shooting and plenty of feather beds. Then I think: *Hummingbird!*

I open my eyes and sit up.

The crying stops.

There's a little girl standing in the doorway. She says, "Oh!" And then, in the enemy language, "I thought you were dead."

I'm not a good judge of children's ages, but she can't be more than six or seven.

I say, "N, n, not yet."

She says, "You had blood."

"D, did I?"

"You stayed in bed all day. I wouldn't like that."

"I, I, I . . ."

"You talk funny."

"I, I . . . Yup."

"They didn't want me to see you but I did anyway. Lots of times. Like now. You're a secret. But how come you get all these nice things?"

"Wh, what? N, nice?"

Then I see, beside the bed, there are sketch books, pens, and paints, and a large tablet of watercolor paper.

"I wish I could have them. Or even just one little bitty thing."

"Which?"

"Paints."

"I . . . I'll . . . share."

Then Milla comes in, carrying a tray.

"Sassuna! What are you doing here?"

She's wearing slacks and a flowery blouse. Everything much more revealing than her uniform.

"He said he'd share."

"Go!"

The girl is so happy she actually skips out.

"I hope she didn't wake you."

"I . . . I . . . like . . ."

She puts the tray on a little table by the bed.

I try to get up and fall flat. Bang my chin yet again, knock over the tray—the tea, the bread—in a great clatter.

But she's kneeling beside me. I'm in her arms.

Again I'm thinking: Maybe words aren't that important.

Sassuna must have heard everything crashing down. She's back. As before she says, "Oh!" Stands in the doorway watching us.

Milla kisses my forehead and then my cheeks. I reach up to hold her head so I can kiss her lips.

Sassuna keeps on looking. We keep right on kissing.

Milla tells me the soldiers of my side are entering houses hunting for soldiers of their side. They're killing animals to eat and killing animals for fun. The place is overrun by *us*. So far they haven't come here. This farm is set well back from the main road and hidden in trees.

I was shot in the thigh. Another shot creased my ribs under my arm. When I fell I fell hard and hit my head.

After they shot me, Milla's side apologized to her. They even helped carry me out to the road, but refused to do more. They thought my side was right behind them. Milla found an old man with a cart and had him haul me here.

There's an old lady here (Sassuna's grandmother) and a boy who sleeps in the barn and helps out. They know I rescued Milla and she showed them the pieces of my paintings. Boasted about me. Only Sassuna doesn't look at me as if I was special. She says she can draw and paint just as well as I can. I say we'll go out and paint as soon as I'm well enough. Of course I don't say it as easily as that but Sassuna waits for me to sputter it out.

Later they wheel me into the yard to paint and soon we hike the fields and orchard. Milla comes, too. She likes to sit behind my left shoulder and watch my paintings grow, little by little by little.

Everything we paint is hung up in the main room right away, mine and Sassuna's side by side.

Now, to everybody's exasperation, Sassuna limps and stutters as much as I do. Nobody can stop her.

Sassuna says, if she was a bird, she'd like to be the red and blue one with the topknot. I say I'd like to be a crow or raven because they're clever and tricky.

And Milla and I . . .

Sassuna's grandmother lets us do as we do without disapproval.

Neither of us talk much. Touch is how we love each other.

But they come. My side. In the middle of the night, of course. They take me and Milla.

I can't explain anything, even in my own language, but I don't want to. I want to go with Milla. Milla tells them I'm on their side, but they don't believe her.

I'm still wearing my shirt and pants with bullet holes. Bullet holes in civilian clothes means to them I'm worse than a soldier, I'm a spy. They think my stuttering is a ruse. Or, they think, I was picked to be a spy because I couldn't divulge secrets when tortured.

They tie us up and throw us in a truck bed and drive us back to the old fort. I have a kind of fit. I *will* not let this happen. I refuse. I struggle. Milla keeps yelling for me to stop. "It won't do any good." At the end of twenty minutes I'm exhausted.

They lock the others near the gate but they take me to a cell on the far side of the fort. I'm in a room with hardly space enough for a cot. And there's no cot. In fact there's nothing. There's a barred window in the door just big enough for somebody to look in and see if I'm still here.

There are ravens all over the yard. Perhaps the bombing scattered garbage.

One comes to my tiny window, pecks at the bars. "Hello," he says. And then, "Fire in the hole. Boom."

I caw and then coo. I'm thinking: Go tell my love I love her. I say, "I, I . . . t, tell her I, I . . ." And shoo him away. He says, "Goodbye," and does a barrel roll before flying off. It cheers me up.

I kick aside chunks of plaster and pieces of a beam and lie down on the earth floor and look at the half ruined ceiling. Could I pull it apart even more and escape? There's nothing to stand on to reach it. Maybe at the door, perching on the lintel? I leap up the wall but fall flat. I do it again.

When I was young I took needless risks in order to test myself. Perhaps it was because I couldn't talk. I had to prove myself some way. I'd stay out in a cold rain without a raincoat. I'd climb the hardest cliffs, and climb higher and longer than anybody else. I was a pacifist, but I went to photograph wars to prove myself as brave as any soldier. I thought I had gotten over that need.

But I leap up the wall yet again and fall flat, as if hurting myself proved something.

I'm about ready to have another fit.

I calm myself by imagining Milla yelling, Stop. I lie down, and study the ceiling again. Finally I doze.

Evening comes. No one brings food or water.

I watch out my little window. There's a mortar launcher set up in the yard, but nobody near it. Soldiers are walking about now and then, though not as many as you'd think if they're serious about holding the fort. Just enough to look after the prisoners—which they're not doing, at least as far as food and drink is concerned. I wonder if Milla got fed.

I call out a couple of times but nobody pays attention. Crazy man, stuttering out consonants. "P, p, p, please," like a motorboat that won't start.

At dark the bombing begins. This time it will be Milla's people trying to get their fort back. What's the sense of all this back and forth? This fort isn't worth much to either side. When they win it what will they have won?

At the next volley my roof collapses. Thank goodness there wasn't much of it left to



fall on me. One of the beams lies wedged, half way down, and at an angle. I can reach it and climb out.

Mortars are falling everywhere. As I watch, the mortar launcher in the yard is blasted apart.

And then her side does an old-fashioned thing. They shoot arrows wrapped with burning rags into the broken wooden roofs. It only takes a minute for smoke to cover everything. Soldiers run around choking and yelling.

All I think about is Milla. I run through the smoke to where she was locked up but when I get there, the door is lying on its side burning. I try to go in but I can't walk over the fallen and burning ceiling and I can't see in all the smoke. I call out. Nobody answers.

But I'm the only one they thought was a spy. Maybe they let her go. Or could she have knocked the door down, or maybe got out through the roof as I did before it burned?

Would she have left without me? She might. She might have been thinking of Sasuna and Grandma.

I head for the gate.

But their side is picking off the soldiers as they run out. No questions asked—as usual.

I pull my shirt up around my face and turn back into the smoke.

I get lost right away. I fall. Then I hear, "Hello. Hello."

I caw.

"Hello there. Fire in the hole. Boom."

I've always trusted birds.

I get up and run, following that crazy, raucous voice.

"Hello. Hello there."

Just when I think I can't take one more smoky breath, there I am, bumping into the back wall of the fort, suffocating and nowhere to go. But there's an impatient, "caw, caw, caw," from somewhere near me. I turn towards the crawling and feel a gust of fresh air. There's a narrow stone doorway and a stone stairway just inside. It's not smoky in there. The air is cool and smells of mold. I climb the steps for what seems like three stories and end up high on the ancient battlements. The wind is blowing in the other direction. The rest of the fort is completely hidden in smoke but I'm in the clear.

Back here, the battlements are right against the cliff. The ancient cannons can't have been of any use at all, and yet there's one every ten or twelve steps. For Heaven's sake, facing the cliff! As if to follow some military rule that said, in all forts, it must be so.

The raven is perched on one of the cannons.

Then the fire hits the arsenal. The whole front of the fort blows up.

We—raven and I—are far enough back and high enough not to be hurt by debris, but we're both knocked down. I'm on my back and the raven . . . at first I think he's dead, splayed out flat, feathers every which way, but he gets up and flutters to shake his feathers back in place.

"Fire in the hole. Boom."

"Ex, ex . . . actly."

He starts to preen, trying to put himself back together.

This section of the fort is all that's left. Not much use now, even as a prison.

I hear a squawking and look in the mouth of the cannon and there's a nest and three baby ravens in there. They're not even dusty. When they see me peering in, they squawk louder. All you can see are three wide open red mouths.

I make a fluttering sound in the back of my throat. "Rroo, rroo, rroo," trying to imitate the sounds parents make to their chicks. I sit down beside the cannon.

Some things, even fragile things, still live and thrive. But Milla? Is she part of this dust billowing around us? Am I breathing her?

What if I hadn't made it this far before that blast? What if I . . . ? Blown to bits, too, flying, as maybe Milla is flying around me right now.

I have wished I could fly.

I don't want to be birds made of a hundred little bits. Unless Milla. . . .

The raven hops up on the side of the cliff.

"Hello. Boom! Hello. Boom!" As if telling me to follow.

But only fingerholds and toeholds here. If that. Does he think I'm a mountain goat? Or does he think I, too, can fly?

But I've lost all fear for my own safety. I have nothing else to lose and nothing to do but trust my raven.

Now he's even higher.

"Crox. Creeks. Crow. Boom!"

I find a tiny fingerhold. I begin.

Without my raven's repertoire of caws and cricks and buzzes and booms, I'd not have had the guts to do it. He gives me confidence and, even in the midst of all this, amuses me. If such a creature still talks and crows his way through life, his chicks on the very edge of disaster—if he tries to help me for no reason whatsoever, it must be worth hanging on . . . and literally hanging on.

I thought maybe with my wounded leg I wouldn't be able to do it . . . that I'd end up flat out beside the chicks. Good food for carrion crows. At least I'd end up of some use.

It gets easier. In a few minutes I'm back on the wooded pathways I usually travel. Cinders fly up around me, some as white and magical as the feathers of the snow geese. I grab at them but they're as elusive as down.

I turn around. I want to circle to the gates of the fort and try to find out what happened to Milla.

My raven calls, "Hello. Hello. Hello."

I keep going.

He flies into my face.

In spite of a face full of feathers, I keep going back.

He dive bombs my head.

"Aw, r, r, right," and turn around. "D, d, d, *damn!*"

I don't believe this. Birds are smart in their own way, but not in our ways.

He leads me up my usual pathway. We don't go far when I see a small bundle wrapped in red cloth and partly covered in leaves and brush.

The raven coos—as if to his chicks.

It isn't! But it is!

I squat beside her. "S, s, s, Sa, suna!"

She sits up and grabs me so hard she knocks me over.

I never saw such a sad, pale, dirty, tear-streaked face. Ever.

"I couldn't find you. I couldn't find Milla."

Has she been out here all night?

"H . . . how? How long?"

She starts to cry. By the looks of her I wouldn't have thought she had the energy.

"And then I couldn't get back home."

"Fire in the hole. Boom! Hello."

"It, it, 's all right n, now."

"Don't go."

"C, 'course not."

When I look up to see where the raven's got to, he's gone.

We'll have to hurry back. The night will be cold. Sassuna only has her jacket and I have nothing but my shirt. I take it off and wrap it around her, tie it on by the sleeves. I put her piggyback and start on up. My body will help to warm her.

I've climbed up and down here so often, and with a big bundle of paper and paints. Sassuna isn't much heavier.

What a dangly age she is, nothing but arms and legs.

"Nor."

"Mmm hmm."

"I love you."

As I was following the raven up the cliff, I had thought to find a way to get myself blown to bits or burned to ashes—anything that would take wing, but I guess not. At least not yet.

She falls asleep there on my back and drools on my shoulder. As evening comes it does get cold and me with no shirt. It'll take another couple of hours before I can find my way back to Grandma's.

But my leg wound and lack of food catches up with me. I stop under the overhanging rock. Just one more short climb and we'll be up where it's flat and easy, but I have to rest. I put Sassuna down next to the dead fire where Milla and I sat side by side and she tried to put my paintings back together.

I'm freezing. I gather up wood and brush, make a small fire and lie down beside it.

I think of those raven chicks, right on the edge of war, and the hummingbird there, practically between shots. Why can't some of us resign from all sides? Fly over it. Not even be bothered? Build our nests above it all?

I wake to shooting. Sassuna and I are caught between it. She cries out in panic.

"Shhh. Shhh. B, b, b, be a bird."

"How?"

And now my words come out perfectly. No hesitation.

"Remember the shiny red and blue one you wanted to be? Be it."

Shots are all around from both above us and below. A grenade lands next to us, right where the cinders still. . . .

I rise, a shiny red and blue bird beside me. There's a great rush of wings as a flock of ravens rises up with us.

"Hello. Hello. Hello." ○



# THE COLDEST WAR

Matthew Johnson

Since his last story appeared in *Asimov's* ("Lagos," August 2008), Matthew Johnson tells us that the biggest and newest bit of biographical information for himself and his wife Megan has been the arrival of their son Leo. The author still resides in Toronto, Canada, and his latest story certainly indicates that Canadians have an understanding of what it means to be really, really cold.

"I may be gone for some time," Gord had said.

It was their only joke, Oates' last words as he left Scott's shelter in Antarctica, and like everything else in the base it had been worn smooth with use and re-use: Stan and Gord each said it before leaving the base, every time they went out to walk the inuksuit and fire the flare, their way of laughing at the dark.

The whole island was just over a kilometer square; on a good day, Defence had calculated the whole circuit would take just over three hours. The problem was that Hans Island had no good days. At this time of year there were hardly any days at all: only a little over an hour of grey twilight around noon, the remaining time given over to the endless Arctic dark.

Stan glanced at his watch, put down his book and went to start the Coleman stove. Though it was substantially warmer within Base Hearn than outside, where kerosene turned thick and white as lard, it still took the stove a few minutes to heat up; while he waited Stan unpacked two dozen frozen Tim Hortons doughnuts and a can of coffee. It was a challenge, getting the six thousand calories they needed each day, but the doughnuts and coffee were more than a contribution toward that: the two half-hour overlaps between their shifts were the only time either of them saw another human being each day, and the ritual helped them pretend that they were back in the real world—not planting a frozen toehold for Canada in a place so remote even the Inuit considered it uninhabitable.

Before long the stove was hissing with a bright blue flame, but Gord had not returned. Stan checked his watch: 14:35, just five minutes late—six hours was normally enough time to get from base to base, but with the storm he could hear howling outside it might easily take more. He turned the stove low, just hot enough to keep the fuel liquid, picked up the one-volume *Deptford Trilogy* and started reading, careful not to lose Gord's place.

It was around 14:45 when Stan checked his watch again, and he decided to brew the coffee and fry the first dozen doughnuts. He had to give himself a good ten minutes to suit up, not to mention warming his hands enough that he could stand to insert the catheter, so he unsealed the pack of frozen doughnuts and tossed them in the skillet. The smell quickly filled the small space, the fat surrounding each dough-

nut melting and starting to sizzle, and, when the coffee aroma joined it, Stan could almost imagine he was home.

When another ten minutes had passed he began to worry. Gord was now almost a half-hour late, and Stan began to wonder if something had happened to him. Of course, he might just be holed up in Base Franklin; they were under strict radio silence—anything battery-powered died within a week in this cold, anyway, and their hand-crank radios could receive but not send—so there was no way to communicate between the two bases, just thirty-five meters apart as the goose flew. No way, for that matter, to send a cry for help.

Stan sighed, drank the last of his coffee; a layer of frost had already begun to creep inward from the rim of the mug. "Sorry, Gord," he said as he shut off the stove's low flame, hoping the fuel would not have time to thicken again before Gord got back. He pulled his undersuit off the hook, stepped to the middle of the room where he could stand up straight and stepped into it, cotton and Kevlar covering everything but his mouth and eyes. Then he popped a bulb of hydrating gel into his mouth, minty and medicinal, and stepped to the first door of the heatlock.

He reached toward the emergency override before stopping himself. If something had happened to Gord—if he wasn't just late, hadn't just decided to wait out the weather at Base Franklin—what if it hadn't been an accident? What if there was a Dane out there?

It was no secret the Danes wanted them gone; it was their government, after all, that disputed ownership of the island with Canada—the only reason anyone cared about a barren hunk of rock halfway between Ellesmere Island and Greenland. Or not exactly halfway, as each government claimed. Hans Island was at the edge of a strait that had opened up in recent years, in summer at least, making a Northwest Passage finally viable for commercial shipping; if the island was Canadian then so was the strait, and if it wasn't the strait was international waters. *For want of a nail, the horse was lost* . . .

Neither Canada nor Denmark, both NATO allies, were willing to fight over it. That was why he and Gord were there: to live for twelve full months on the island, firing a flare each day at the two times satellites passed overhead, to prove Canadians lived there year-round. Gord and Stan had been detailed from the Ranger base at Alert when no Inuit had been found willing to do it; even for them this was no place to live. As for the Danes . . .

Stan drew his hand back, let the heatlock cycle at its normal rate. They had seen no sign of Danes since they had arrived the previous spring, but, in planning the mission, Defence had assumed they would face some covert attempts to interrupt their stay, come up with as many countermeasures as they could. The heatlock was one of those, designed to prevent the expulsion of too much warm air that might betray the location of the camouflaged base. With no knowledge of what similar technologies the Danes might have—only that they were likely ahead in the race—Equipment, Procurement, and Supply had done what they could while Stan and Gord trained in the near North, learning lower-tech survival skills.

After what felt like forever the outer door opened. By that time Stan was chilled through, despite his insulated undersuit. The othersuit was hanging a few meters away from a hook attached to the heat baffle that rose over the base. Unlike the undersuit, which was designed to keep him warm, the othersuit kept the air around him cool: it was basically a man-shaped Thermos, filled with gelpacks that stayed liquid to sixty below, absorbing and storing the heat he threw off so he would have no infrared signature. The breathing mask drew air in from outside, cold and dry, but stored his exhaled air in cooling chambers before expelling it, again to keep him as cold as the world around him. Outside the suit was Kevlar covered with a layer of a

nanofiber that tuned itself to the ambient light around it, gray in twilight and black in darkness; the headpiece's visor, sealed away from his breathing mask to avoid fogging, was an insulated crystal display that gave him a digital feed in IR as well as the visible spectrum. He looked like the Michelin Man with it all on, but in this terrain he was nearly invisible to conventional or IR sight.

Flexing the suit's stiff fingers, Stan opened the gun locker, picked up his Ross Polar III and slung it over his shoulder. He patted his hip pocket to make sure the flare pistol was there and then followed the curve of the heat baffle, emerging halfway up the steep slope that led from the cliff on which Base Hearn sat to the flat top of the island where the flare station was. Out of the shelter he felt the force of the wind on him, blowing pebbly snow hard enough to make him glad of the suit's extra mass.

He switched on the light intensifier, the sky almost fully dark at 15:10—this near to the solstice just a few hours passed between dawn and dusk. The island was barren and nearly featureless, a wrinkled rock that rose up high at one end and sloped down to a stony beach at the other; he tuned the contrast on the video feed way up, exaggerating the many creases and fissures in the ground enough so that he could actually see them, turning all into dark lines that looked like they had been drawn on the ground with a felt-tip marker.

At this end of the island there was no horizon; to his right were the cliffs and the endless, frozen sea, to his left the rocky slope that rose up at an unclimbable angle. He followed the ridge he was on until the first inukshuk came into view. This one they had nicknamed *Atii*, "Let's go" in Inuktitut; it looked the most like the inuksuit you saw in the south, a vaguely man-shaped pile of rocks with legs, arms, and head, the whole thing about a half-meter tall. They had built eight of these around the island, all different: as well as checkpoints, they served as sentries, the thought being that someone unfamiliar with the island would likely stumble over one and knock it over. The first one, built where the lower ridge climbed up toward the island's flat top, was undisturbed, so Stan sighted the second and headed for it.

It took him a minute to notice what was wrong: this inukshuk, called *Howa-ii* or "turn left," should have had one arm longer than the other, pointing to its right. Instead it looked like the first one, arms and legs symmetrical. Someone had been here, someone who did not know how the different inuksuit were supposed to look.

Stan checked the timer readout on his visor: 15:53, still almost two hours until he had to fire the flare. He left the inukshuk as it was, to warn Gord if he was still out here, and started the climb up to the plateau at the top of the island. This was one of the few possible approaches, and even here it was a rise of nearly forty-five degrees, going up four meters in a distance just over that; he leaned into the climb, keeping his gaze moving back and forth to spot any moving objects or IR sources.

He was halfway up the slope when he saw something, or thought he did: whatever it was didn't throw off any heat, and even with the contrast at maximum it was hard to tell a rounded gray shape from the sloping rocks. It might have been Gord, or a Dane, or nothing; before Stan could get a second look his foot caught in one of the island's deeper folds. He pitched forward, striking the hard ground with a crack before rolling down the slope.

Not quite unconscious, Stan's mind swam as he struggled to right himself. The suit's weight fought against him, making him slide further down the slope before he could get to his feet. Standing uneasily he looked around. To his dismay, none of the inuksuit were in sight. Their third function was as landmarks: each part of the island looked much like every other part, its steep rise and fall making it impossible to see any distance except from the plateau.

*You're in a house where all four walls face south*, he thought. *A bear walks by. What color is the bear?* This near to the Pole, a compass was useless; on a clear day he

might spot the North Star, but today was far from that. He checked the time read-out: 16:20, an hour and a half 'til the fifteen-minute window during which he needed to fire the flare. He might head straight up, but there were few enough manageable approaches to the plateau that he could spend hours getting there. Better just to follow the path of least resistance: that was where they had placed the inuksuit, at points where anyone walking the island was likely to pass. If he could find one he recognized he would know where he was—assuming it was still intact.

That reminded him of the figure he had seen, or might have seen, just before falling, and he suddenly wondered whether his fall might have damaged the suit. The head of the suit was able to tilt far enough down for him to see that he wasn't radiating from the front, but there was only one way to tell if he had a sign that read SHOOT ME in IR on his back; sighing, he lay down on the ground, watched a few minutes tick off. Enough heat would have gotten out to visibly warm the stones by now if he was bright, so with effort he rose again and turned around. Nothing: the million-dollar product of Canadian ingenuity and second-hand NASA technology had survived a fall. Letting out a dry breath, Stan started his way downhill, not having to remind himself to take the easy path.

He saw the ocean first, the endless frozen waves of Kennedy Channel, almost missed the inukshuk that stood a few meters before the shore. As he neared he saw that the upper stones were leaned against one another to make a V, or a pair of arms held skyward. Now he knew where he was: the southern shore, only about twenty meters and a gentle slope from Base Franklin. Now that he had his bearings he could get there, check on Gord, and still get up to the flare station in plenty of time; knowing where he was he could even see the building, its camouflaged dome barely visible against the curve of the island.

Before he had covered half the distance he saw that he had been wrong to think the suit had not been damaged. It was not leaking heat, but he could see now that the seal between his breathing mask and visor had been broken: dry as his breath was it was starting to fog up the panel, and before long he would be blind.

He could not change his plan: there was no use heading for the flare station if he couldn't see to fire the flare. If he made it to Base Franklin while he could still see, though, he might be able to get a spare, or repair the seal—or Gord might be there, might tell him that he had fired the morning flare and there was nothing to worry about. Then they could both laugh, share coffee and doughnuts, and forget about this whole business.

Stan forced himself to slow down. He had to keep his breathing shallow, slow the frost forming on his visor. The base was so close; it took everything he had to keep his strides even, his heart quiet. Moving this slowly he had too much time to think—about what might have happened to Gord, about the visor, about the Danish rifle that might be pointed at him. Though he knew he was still dark he felt terribly exposed, and could not help letting out a long breath when he reached Base Franklin. Near to the beach end, this base rose up away from the ocean, presenting its rounded grey face to the rest of the island. With stiff fingers Stan flipped up the cover for the keypad, punched in the code for the heatlock.

It didn't open.

Forcing himself to hold his breath, Stan tried again, punching the numbers carefully with the stylus-tip on his right index finger. Again, nothing.

What was going on here? Frost lacework was creeping in from the edges of his visor; Stan realized he was hyperventilating, forced himself to count to sixty to slow himself down. The timer was covered now, illegible.

Scanning from right to left, Stan noticed that there was no rifle outside the base. That wasn't like Gord: he knew to leave his weapon in the gun locker outside—any



condensation from a change in temperature would freeze and ruin it when you went back out. Slowly, Stan circled the small, slanted building, confirmed there was no rifle anywhere around it. Gord had left his gun somewhere else, then, or he had been forced to go inside without taking the time to drop it—or whoever was in there wasn't Gord.

He was nearly blind now, and realized he would have to leave that question for later. Just about ten meters away, buried in a fissure that ran most of the way across the island, was one of their two bolt holes—caches of emergency supplies, in case they should be caught outside the shelters. Something in there might help him, if he could get to it.

Though this end of the island sloped more gently it was still a rough climb, especially since he could not see his feet. He had to be near the fissure now: he dropped to his knees and began to crawl, feeling the ground ahead of him as the world outside faded to white. Finally it was gone entirely, the only evidence of it the wind howling in his pickups.

His left hand touched something softer than rock, and he knew he had made it: the fissure was one of the only places on the island where snow collected. Stan thrust his arm into the snow as far as it would go, slowly crawled along the fissure until he felt hard plastic. Still fighting to keep his breathing even, he cleared the snow off the bolt hole's lid and began to pry it open, both arms fighting against the stiff hinge. For a moment all his strength left him; after a second's rest he tried again, a loud crack telling him that he had not opened but broken it.

Stan reached into the box, felt around for the tools and supplies that lay inside. There was no question now of repairing the seal, not without being able to see what he was doing. Instead he fumbled for the ice-knife he knew was in there, part of the igloo-building kit, and drew its butt-end sharply toward his visor.

It did not feel right, swinging a sharp, heavy object at his face, and his first few blows fell lightly. On the fourth try he closed his eyes, brought the knife full force into the blinded visor. At first he could see no effect, but as he kept swinging, cracks appeared, lines of darkness crossing the pure white of his vision. He switched hands and swung again, bashing the wooden handle against the plastic until finally it splintered and cracked.

Now it was truly dark: he had no IR to see by, no night-vision. At least the storm had stopped, just enough light falling from the hazy sky for him to make out the shape of the ground around him. As he stood and looked around, the wind cold on his face, Stan suddenly realized he was bright where the visor had broken. He scooped snow up from the fissure and packed it into his visor and rose again, his face burning, and tried to sight the trail that would lead up to the flare station.

The flare would be easy enough to find, probably only twenty meters or so away, but it was also the one place a Dane would be sure of finding him. He had no choice: he didn't know if Gord had succeeded in firing the morning flare, so if he didn't fire this one nearly a year spent on the island could go to waste.

Despite his freezing face Stan forced himself to move slowly, again being given unwanted time to think. What could have happened to Gord? If there was a Dane on the island, why now? It wasn't the longest night of the year, or the coldest day; those had both passed weeks ago. There was nothing he could think of that might have upset the balance of power, unless it was some new technological development—

"Son of a bitch," Stan said, cursed himself as his exhalations puffed out like word balloons. That had to be it: the Danes had perfected the heat-silenced gun.

There were two reasons nobody had expected an attack. The first was that the suits, when they were working, made Stan and Gord almost invisible; since any Danish operation would have to be covert, not an all-out assault, that by itself would



probably be enough to prevent it. The Danes probably had similar suits, which brought up the other reason: every time a rifle was fired the barrel got hot, lighting up the shooter in IR. That meant that even if you could sight your target you had just one shot before you made yourself extremely visible, and given the Kevlar layer of the suits one shot was unlikely to finish anybody off.

Defence had spent a lot of time and money trying to solve the problem but eventually gave up, consoling themselves that the Danes had probably failed as well. But what if they hadn't? What if the Canadian presence on the island had pushed them to develop some way to instantly cool the gun barrel, or mask its heat signature? With a heat silencer you could fire any number of shots without giving your own position away—and heavy though they were, the suits weren't made to stand up to serious fire.

By now Stan's heart was beating fast, his strides quickening as the flare station came into view. He looked from side to side; seeing nothing in the dark he broke into a run. At the edge of his vision something moved, and he froze: covered his face with his arm, hoping to block whatever heat was coming from his face as the snow melted. The storm had picked up again, making too much noise for him to hear anything else. He turned to face into the wind, dropped his arm and waited until his face began to numb. Then he slowly turned around, watching.

He started as he saw a shape, tall and clear against the sky; let out a breath when he realized it was the flare station, just a few meters away. Once more covering his eyes with his arm he walked blindly for it, feeling ahead of him with his free hand until he reached it.

The flare station was a simple structure, mostly wood and stone, a framework tower three meters tall. In the middle sat the flare cannon, just a tube and a foot-trigger; two hourglasses, one red and one blue, were hung from the frame on horizontal spits. They were meant as a backup in case the time displays in their suits failed, as electronic things so often did here, and also as a sign that the flare had been fired: once that was done they turned their hourglass over. Both the glass and the sand inside were made of synthetics that did not expand or contract with temperature, so that they would reliably tick out twenty-four hours every day. The sand was supposed to be luminous as well, but at this time of year it did not absorb enough light to glow. Without his visor, Stan could see neither whether Gord had turned his over nor if his had run out.

The storm had let up once more, and something on the ground shone with a hint of starlight. Moving slowly, Stan moved to see what it was. He crouched down, felt the smooth barrel of a rifle. Once it was off the ground he could see that it was a Ross Polar, which made it Gord's: the Danes used Arctic Magnums.

Stan straightened up, looked around once more. If the rifle was here and Gord was nowhere nearby, then he had probably dropped it after firing, to escape its heat signature. Wishing he could tell whether the barrel was still hot, Stan hung the rifle from the tower by its shoulder strap, scanned the horizon once more. Now that the storm had cleared the ocean reflected the dim light from the sky, surrounding the dark rock of the island and stretching out as far as he could see. If Gord hadn't been able to make it to the base he might have gone out there: in their training they had learned that sea ice was a better place to make a shelter, at least in winter, since the liquid water beneath was warmer than the ground. Even if he had still had his visor, though, it would have been impossible to spot anyone among the endless frozen waves.

He turned back to the hourglasses. He needed light to see whether his hourglass was near empty, whether Gord's had been turned, but anything that let him see would let the Dane see him. On the other hand, if someone weren't *expecting* light . . .

Leaning against the flare station, Stan drew his flare pistol with his left hand while shading his eyes with his free arm. He turned toward the hourglasses and fired the flare away, out into the dark; in the brief light he just had time to see that his hourglass, the blue one, was nearly empty. The satellite was overhead, its eye on the flare station for no more than ten minutes. Hoping the Dane, if he was out there, was still blinded by the flare, Stan turned his back on the tower and hit the foot-trigger.

A sizzling ball of fire flew straight up out of the cannon, for a moment illuminating the whole island. In that second Stan saw a dark shape off to his right, spun toward it and brought up his rifle. His stiff and clumsy fingers found the oversized trigger and he fired without thinking, heard a dull wet sound that told him he had hit his target.

"Shit!" Stan said, twisting to shrug out of his rifle's shoulder-strap. Now he had two useless rifles, at least until he could be sure Gord's had cooled. He circled to the other side of the flare station, keeping his back to it, and tried to slow his breathing. The snow on his face had melted; he was unarmed, visible, and had just marked his position for the world to see. He brought his forearms up together to cover his face and chest, waiting for the volley of shots that were sure to come, forced his stuttering breaths down into his mask so that no wisps of steam would betray him.

Eventually his heart slowed, and he risked a look out between his arms. Why hadn't the Dane attacked? He would never get a better opportunity. Unless—Stan remembered the wet sound he had heard when he fired. If Stan's shot had burst one of the Dane's gel packs he would be leaking heat, and if the Dane didn't know Stan's visor was broken he would think Stan could see him. That was why he hadn't fired back: a hot weapon could be dropped, but you couldn't shake a bright spot on your chest.

Where was he, then? Not still lurking out there, if he thought Stan could see him. He would have to go for shelter, somewhere he thought he could repair his suit or just make a stand. That meant either Base Hearn or Base Franklin. Stan moved slowly around the flare station, keeping his back to it, spotted one of the inuksuit a half-dozen meters away. There was only one of those on the plateau, the one they called *Hulla* or "turn right," which pointed the way to Base Franklin. The other way, then, led back to Base Hearn.

During the storm, snow had piled up against the flare station; Stan picked up a double handful and packed it into his broken visor, leaving just enough room to see out. This time he did not feel the cold, his skin numb to the snow's touch. Now he was invisible again.

At this end of the island the edge of the plateau was a sharp drop, nearly two meters to the next ridge. Only at the point marked by the inukshuk was the slope manageable, but Stan could not see it: either it had been knocked down or the night was simply too dark. He traced the edge carefully, the ground a murky darkness below, until he felt sure he had sighted the heat baffle that hid Base Hearn. He sat, dangled his legs over the edge and slid down, not knowing how far he was going to fall until his feet hit the ground. His right knee flexed painfully with the impact and he fell onto his side, the wind knocked out of him and rising like a cloud. He stood up carefully, sighted the heat baffle and began limping toward it, once more following the path of least resistance.

He would not have noticed the heat baffle if he had not known it was there. They had built it from their supply crates, then covered it with the same fabric as their suits so that it looked like part of the island. He crept toward it, holding his breath. His heart thudded heavily in his ears with every step.

A thought occurred to him, and he stopped. The passage between the baffle and

the base was narrow, just over a half-meter wide; if the Dane was waiting for him there, rather than inside the base, he would be impossible to miss—and the suit would not protect him from a few well-grouped shots to the chest, or a single lucky one to the face. It was more likely that the Dane had gone inside—he couldn't wait forever—but there was no way for Stan to *know*. If he went in there he might be stepping right into the face of death.

A moment later he thought of a worse possibility. What if there was no Dane? What if it was Gord?

He hadn't wondered before how the Dane had come to the island—he had supposed it was by snowmobile or dogsled, which he had left out on the ice—but now it felt suspicious. And how had he known how to reprogram the heatlock to Base Franklin? How had he made his way around the island so easily?

But if it was Gord, why was he doing it? Was it just that the dark, the cold, the isolation had driven him mad?

Had *he* been driven mad?

Had he mixed up which inukshuk he was looking at, at the very beginning? Had the heatlock at Base Franklin simply been jammed? He had fired at a shape in the dark, though: if it wasn't the Dane it had to have been Gord. Gord might think *he* was the Dane, or just that he had tried to kill him. That he was crazy.

Stan stood there for a long time. He was starting to feel hot, beads of sweat forming on his forehead and dripping down, frozen, into his eyes. The gel packs in the suit were near their limit: he would have to take it off soon, let them cool down again, or they would overload and start to shed heat. Finally he decided what he had to do.

It made no difference whether it was Gord or a Dane, who had attacked whom, who was mad and who was sane. He could not risk the narrow passage between the heat baffle and the base, and Base Franklin was closed to him. It didn't matter, though. All that mattered was that the flare was fired at least once a day. He only had to make it a few more months, until spring came and his year was up.

Stan turned, started to make his way back toward the bolt hole. He could not stay on the island. It was too small and exposed, and without a shelter the rock would draw heat from him so quickly he would be dead by morning. Better to go out on the ice where it was warmer, build an igloo from the snow that was out there, piled up against the waves. He had been trained to build one in just a few hours, and once inside he would be warm enough to survive. In the brief light of the next noon he might even be able to repair his suit: there were tools in the bolt hole, a spare faceplate he could put on when he had time and privacy, as well as a stash of flares and emergency rations.

He made sure to take more than he thought he would need. After all, he might be gone for some time. ○

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# THE CERTAINTY PRINCIPLE

Colin P. Davies

Since Colin Davies' last tale, "Babel 3000," appeared in our March 2007 issue, his first collection of short stories, *Tall Tales on the Iron Horse*, has been published by Bewildering Press. Further details, including reviews and excerpts, can be found on his website at [www.colinpdavies.com](http://www.colinpdavies.com). While Colin's new story reads like a thriller, it also explores some disturbing and complex moral issues that the future may bring our way.

John Hale arrived at the Red Planet Low-Gravity Retreat on a warm sunny afternoon at the end of October, when the hills were brown and bleached with drought and rain was two weeks away. The bus ride from the zipper terminal in Aberystwyth had taken him through slums of steel shelters and gaunt glares—a fact not lost on him when he was welcomed at the gate by Madame Jones and her double-barreled shotgun. Bloodshot eyes peered out from under her white, wide-brimmed hat.

"Please bring your bags through, Mr. Hale." She kept the shotgun pointed at the street kids who had trailed John from the bus stop. The gang of pre-teens stood, wrapped in rags, atop the path that bridged the perimeter ring of super-cooled coils. Beyond them, tall conifers crowded in along the narrow lane where the bus slowly made its way back up the hill. "I don't expect trouble, but it's best to be prepared. My word, Mr. Hale! Just the one bag?"

"You learn to travel light when you're fifteen long years in the fleet!" He passed through the gateway and into the low-gravity field. He felt buoyant and his bag lost much of its weight.

"I intended no criticism, Mr. Hale."

"Sorry—I've been having trouble adjusting to full gravity. I'm twice my ship weight outside that gate." He noticed her features for the first time—the flushed face-lift that fixed her startled expression, her skin stretched tight over slate-sharp cheekbones, and the tumbling platinum curls that could only be a wig. He wondered at her simple gray Worker suit. Was it a statement about equal rights for the vat-born, or a poor attempt at humor at his expense?

"I'll take that into account, Mr. Hale. I've experienced the same on my trips into town."

"Do you welcome all of your guests personally?"

"Only the ones that interest me." With a kick, she closed and locked the gate. "This is the first time the navy has booked someone in, and paid up front."

"It was the least they could do, considering. . . ."

Lowering the shotgun, she peered up at him. "Considering?"

"My service record." His shoulders slumped. He was so tired.

"Will you be returning to the navy after your rest?"

There would be no returning from a dishonorable discharge—no matter how unjust the verdict. She was feigning ignorance through politeness or embarrassment. She didn't look the sort to be embarrassed.

He shrugged.

Madame Jones set off down the gravel path through a garden lush with shrubs and green lawns. Sprinklers sent up glittering sprays and fat goldfish gleamed in an oval pond. John followed her past beds of vivid red geraniums and the occasional gnome in a space suit. The building they were headed toward was a colonial-style two-story mansion, with white walls and shingled roof. Red and white striped awnings shielded the windows. To the right of the path, visible through a trellis screen, John spotted a sleek maroon Porsche in the secure parking lot. He'd never seen the car before, but suspected a lingering scent of Chanel Charm and the presence of at least one Louis Armstrong file in the player. He would have put money on it.

Madame Jones led the way into the shade of the veranda. She hung her hat on a post, walked to the reception foyer, and squeezed behind the desk, placing the gun underneath and out of sight.

"The evening meal is at six. There's a menu in your room. If you've any special requirements, give the kitchen a call. Breakfast is at seven. Now . . . just a few details and then I'll show you to your room." She turned to a screen and brought up the registration page. "Everything is in order, Mr. Hale. How long will you be staying?"

"You tell me."

"The navy paid for two weeks. Will you be leaving earlier?"

"I have no idea."

She shook her head. "Next of kin?" She peered up through a hedge of thick eyelashes, as if wary of the answer.

"I have nothing worth passing on."

John glanced around the room at the rust-colored drapes and framed prints of Martian landscapes. One wall was a full height screen showing a "live," time-delayed image of a Martian sunrise. "Has a Ms. Chekhov—Sadie—arrived yet?" he asked. "I'm supposed to meet her here."

"Yes. Do you want me to tell her you've checked in?"

"That won't be necessary." Of course Sadie would be here first. Wasn't she always one step ahead of him? Back then, he'd found it endearing, until she'd taken that one step too far—right out of his life.

Madame Jones cleared the screen and surveyed him, as though reassessing all her first assumptions.

"I'll show you to your room," she said.

John fell slowly onto the soft-sprung bed. He was exhausted, but knew he would have trouble sleeping. He hadn't slept properly since the rescue. There was too much on his mind, too many images and sounds that woke him sweating and gasping for air.

He gazed up at the luminaire over his head that emitted both apricot light and the harpsichord music of J.S. Bach.

The reduced gravity was set to mimic Mars—and it was effective. He closed his eyes and imagined himself back there in Marineris Port, preparing his team to escort the documentary crew to the Plateau of Shapes, a startling wind-sculpted region of ice towers and tunnels located in the Ghost Mountains near the northern pole.

The gravity fluctuation caught him by surprise. The bed pressed into his back—as though he was being sucked into the mattress—and then it was over. His body rose to rest lightly upon the patterned quilt. That was odd. He'd never known that to happen at a retreat before, and he'd stayed at more than he could remember.

He waited uneasily for it to happen again, but the world remained steady.

Sadie drifted through his mind. Why did she want to meet him again? It could only be bad news, or perhaps her unbalanced emotions had finally tipped the wrong way and she was here to strike a blow for the vat-born. Cupid's bullet aimed straight for her lover's heart.

John stared at the light overhead. No . . . Sadie was no assassin. A neurotic nightmare, perhaps, but what woman wasn't? She might have sympathy for the vat-grown creatures, might even consider them human, but she would never kill for them.

Anger hardened his jaw. How could a thing without parents, without brothers or sisters, be considered human? A clever machine . . . an illusion!

"Let it go," he whispered. He was here to relax, to forget, at least for a while.

He sighed. This was the most comfortable he'd felt since leaving orbit. He squeezed his eyes shut and let his tension fall away. There was no point trying to guess what she wanted. He'd find out soon enough.

It was three days since he'd "gone heavy"—returned to Earth in the Redcap's shuttle. Three days of aching muscles and sluggishness, as he was taken from one appointment to another. Three days of enduring the questions of reporters and the intrusion of the cameras, the anger of the righteous and the praise of bigots, until finally, his escort sent him out here.

This Retreat was Heaven. Right now, he wanted to never leave.

Sadie was beautiful. It annoyed John to admit it—he didn't like to confirm anyone's view of themselves. She appeared in the doorway to the busy dining room as he was waiting for a coffee from the vendomatic. She was wearing the cream blouse, russet jacket, and matching trousers that he had bought her during their stay-over in Rio.

She headed for the coffee machine and he moved aside with no more greeting than a brief nod. She was a slim, tall woman, only slightly shorter than himself, and radiated a calculated chic that caused him a happy shudder of recollection.

She selected her coffee, then turned to face him. "I'm glad you agreed to meet me."

"Why fight it? You always get what you want." As an operative with Offworld Intelligence, she had the means to make things happen.

She pouted moist scarlet.

John took a sip of his coffee. "The Porsche . . . I imagine that's yours?"

"You know me so well."

"If only that were true." He glanced around the room. "Let's find a table."

"How has it been?" Sadie asked.

"Difficult." John watched her eyes, hoping for a clue to her intentions, waiting for her to get to the point. "Maybe not as bad as I was expecting. The media don't seem to know whether I'm a villain or a hero."

"And what do you think?"

He smiled—the first in a long time. "I've asked myself that question so many times."

Sadie squeezed her plastic cup, watched the liquid rise to the rim. "What do you answer?"

"It's the wrong question. It's all about circumstances. Things happen. We're carried along. The river keeps on flowing and, no matter how hard we swim, we can never reach the banks."

Sadie touched his hand. "You should write that down."

John pulled his hand away and drained his cup. "You're making fun of me."

"No. Believe me, I'm not. It wasn't me that brought his team home from the crash on Planet Hell."

"Not everyone sees it that way."

A thudding sounded in the dining room. John flinched, then glared at an agitated diner who was hammering his fist on a table.

"Are you okay?" Sadie asked.

"As I'll ever be."

She reached forward to touch his hair, but he moved back. "You're grayer than I remember," she told him.

"Hardly surprising."

"So if it's not villain or hero, John, what should the question have been?"

He shrugged—not an answer, but an attempt to release the tension in his shoulders. "Could I have done otherwise?"

"Are you asking me? Or is that the question?" Sadie finished her cup and placed it inside John's. She slid it in and out, never taking her eyes off his face. "I have another question."

"You don't need to ask it." He held her gaze. He wanted her to believe what he said. "My feelings about you . . . my anger, frustration . . . my disappointment, did not influence my decision in the slightest."

Her tight black curls bobbed as she nodded her head. "I hope that's the truth. I'd hate to have to feel any guilt."

Could she feel guilt? "I made my decision based on the facts."

"I think you protest too much."

She continued to play with the cups. John snatched them from her. "I was in charge. I had responsibility." He could not keep the irritation from his voice.

Sadie leaned back in her chair. "I didn't come here to interrogate you. I've brought some information about Matt Sparkes."

The smell of curry filled the dining room and the impatient rattling of cutlery reminded John that he had not eaten since Aberystwyth. "Can't it wait? He's dead . . . and I'm starving."

"It can wait."

John leaned forward for the menu, but sudden weight threw him back into the chair. The gravity fluctuation drew moans and curses from the other diners. In a moment, it was over.

Sadie clutched her stomach. "That was unpleasant."

"Slightly."

"The Man of Steel—*cold and hard*."

"Is that why you left me?"

"Amongst other things." Sadie stood. The cool smoothness had gone.

John touched her arm and forced a smile. "Aren't you eating?"

"Suddenly, I'm not hungry."

She left the room and John allowed the smile to slip away. He still didn't know why she was here. She wouldn't come all this way just to tell him some snippet of the media star's life story. Something more was going on. He didn't trust her. Perhaps he would find out more tomorrow.

Tonight, his door would remain locked.

When it came, the crash was sudden and brutal.

In the low gleam of sunset, Sergeant John Hale and his crew of marines, together with their passengers, Matt Sparkes and his documentary team, had been speeding across the icy Martian desert in an elderly Lockheed Sprint—an ugly but solid work-horse hover-vehicle ideal for short-duration missions. They skimmed over dunes of dusty snow, throwing up a crystalline spray to catch the dying light—a deliberate spectacle for the camera.



John knew something was wrong the moment the interior lights flickered. Seconds later, the lights died to blackness as power failed and the ship dropped.

"Controls are dead!" Nakayama screamed.

Everything bounced. John's head slammed back against the restraint and pain lanced through his brain. After a moment, he opened his eyes to darkness and a dull headache. He heard agitated voices. At least they still had air. He had to check the integrity. . . . He freed his belt and struggled to his feet. "Everyone all right?"

A murmur of acknowledgement came back at him.

He reached out and found the edge of a seat. Dim disks of salmon-colored sky marked the location of the circular windows and told him the ship was level and not buried.

"Sergeant Hale?" He recognized the voice—Alice Carter.

"Alice . . . are you okay?"

"I think so. I can't feel anything broken or bleeding."

The lights came on as Nakayama triggered the emergency fuel cells. John squinted against the sudden brightness. The pilot held a bloody handkerchief to his mouth and gave a thumbs-up with his free hand.

John took a rapid roll call of his crew: Alice Carter, communications operator; Hugo Nakayama, pilot; Tony Rousseau, corporal; Minnie Yeung, engineer. A fine team with their dark blue uniforms, cropped hair, and intense expressions; sharp and skilled, professional and dependable. Everyone was bruised, shaken, and alive.

John nodded at Alice. "See if you can get Marineris." She moved quickly to her post.

He turned to Minnie. "First tell me what works and what doesn't. Then food, water, power, and air . . . how much and how long?"

"Yes, sir."

John turned to Alice, who was tinkering with the communicator. "Anything?"

"Not yet, sir. I can't locate the satellite."

John caught sight of Matt Sparkes talking to his companions: Two male, two female, and all of them looking as nervous as John's own team.

*Fakes!*

The thought was so sudden and angry that John wondered if he had spoken the word.

*Fake humans with fake emotions.* John examined his passengers with distaste.

Sparkes was dressed in a powder-blue suit and tie with white shirt. He looked sharp, as befitted his status as the most prominent vat-born celebrity on Earth. His companions wore gray Worker suits, even though the Humanoid Rights Act, five years back, had made this unnecessary. A political statement. A stunt for the camera.

Sparkes spoke quietly to the bald cameraman and then approached John. "Can we get outside for some long shots?"

"Switch it off and sit down."

"But Sergeant. . . ."

"Switch that camera off and *sit down!*"

"Very well, Sergeant." Matt Sparkes nodded to his cameraman. "We don't want to get in the way. Just relax."

Minnie looked up from a console. "Sir? We're losing air."

"How fast?" said John.

"Not fast, but I can't locate the breach."

"Tony . . . suit up and check the hull. Take the sniffer."

"I'm on it, sir." Tony spun around, shoved the cameraman out of his way and headed for the suit lockers. The man fell back onto a seat.

Matt Sparkes helped his companion up. "Let's keep cool. I'm sure everything will be fine. You're professionals, and we're infinitely patient."

John forced himself to ignore the reference to the thirty years between the first wet steps of the vat-born and their eventual emancipation.

*Emancipation!* The word was a joke. You can't emancipate a machine!

Sparkes crossed to a window and gazed out at the stars. "And besides, I know the back-up hovercraft can be ready in hours."

"We're a long way from Marineris," said John.

"We're six days out," said Sparkes. "So we only have to wait for six days. It will be fascinating to see how we all . . . get on."

"Oh, yes." John glared icily at the celebrity's immaculately tailored suit. "Absolutely fascinating."

John topped up Sadie's glass from the jug of sangria and studied her face. He never could tell when she was lying.

"I have no idea who released the crash film to the net," she said. "But that's beside the point. Do you really think the Service could have hushed up the incident forever?"

"I didn't ask them to in the first place."

John sat back in his canvas chair, gulped his drink and let his gaze wander beyond Sadie to where the browning forest of spruce crowded in on the perimeter coils. The day was fiercely bright, the noon sun a fuzzy disk through the roof of the green canvas gazebo. A cool breeze stroked the stubble on his cheeks. Elsewhere, residents strolled on the lawns, or huddled in leafy corners with a drink and a book.

"I did have a theory," John said.

"Do tell." Sadie relaxed in her chair.

"I thought *you* might have been behind it."

"What benefit would there be to me in making you a celebrity?"

"I said I *thought* you might. Now . . . I'm not so sure."

"Tell me, John . . . if you'd known that Sparkes was secretly filming everything, would it have made a difference to your decision?"

"No."

Sadie stood and turned her back to him. She stared out at the forest. "How long do you plan to stay here?"

"Until Madame Jones kicks me out."

A flickering light, a reflection, caught his attention—past Sadie's right shoulder, at the edge of the forest and close to the perimeter fence.

Sadie turned around to face him and blocked his view. She gulped her drink and looked at him through the glass.

He yawned. "Sorry—I'm tired. You're not boring me."

Sadie glanced over her shoulder at the trees. "I'm cold. Let's go inside."

"Okay." He waited, but Sadie didn't move and John could see the tension in her face. He stood and headed back indoors.

Keeping herself between John and the forest, Sadie followed.

Tony Rousseau struggled out of his suit. "No sign of a leak, Sarge. It must be under the belly." The dust from his boots smeared across the rubberized floor.

John checked his watch. Tony had been outside for two hours. "So we can't fix it. All we can do is relax and sleep." He turned to Minnie. "What's our status?"

Minnie drew a finger across her throat. "The relays have failed. I can't figure out why. Could be a freak. Could be sabotage."

John stared at her. She wasn't smiling. "We don't have terrorists on Mars."

Matt Sparkes stepped in front of John. "Excuse me, Sergeant Hale."

John eyed the celebrity with uneasy suspicion. "What do you want?"

"You've kept my team herded like sheep in a very small pen, Sergeant. The situation's stable. Is there any reason we can't at least move around the ship?"

"I suppose that's reasonable. Go ahead, but no filming!"

Sparkes opened his mouth, but John jabbed a finger into his chest and cut him off. "This is an emergency situation. Understand?"

Sparkes raised his hands in mock surrender. "Would it be a problem if we were to engage in communication with your crew? To pass the time."

John glanced about at his people. "Just don't get in the way."

Matt Sparkes pulled his golden hair back behind his ears. "Could I possibly have a word with you in private?"

John shrugged and moved to a seat away from the others. Sparkes settled himself on the next seat.

"Sergeant Hale . . . you're a farm boy. Is that right?"

"If you can call thirteen acres of autonomous protein production a farm."

"I've heard of these places. Not much of a labor force. Life can be quite lonely for a young boy."

*He's interviewing me!* John considered walking away, but what was the point? He had no secrets. "I found things to do. My dad used to let me play chess with the farm's AI. Running the place took only a fraction of its capacity. I used to imagine it spent most of the time plotting how to take over the world."

"Is it right that when you were nine-years-old you were taken on a fifty kilometer trip by a rogue taxi with a glitched navicom?"

"So you've researched me."

"It's part of my job." Sparkes put on a sympathetic expression. "It must have been quite scary for a nine year old."

"Stupid machines. They're a pain in the ass."

"Is that how you see me, Sergeant?"

"Why do you say that?"

"In cadet school, didn't you support the campaign against integration?"

"What of it? I believe we work better separately."

"Don't you think that if we were facing a big enough problem—a life and death situation, for instance—we might learn to work together?"

Before John had to answer, Alice whooped.

"I've got the satellite! We have a signal."

John had been watching the Systemwide News on the wallscreen in the dining room for half an hour when Sadie joined him. She passed him a coffee he hadn't asked for and settled into the seat beside him.

"How's the trouble in Luna Village?" she said.

"The senator with shares in the Hollywood whorehouse?" John sipped at the hot coffee. "That's not what we navy types call trouble." John glanced around as staff prepared for the evening meal.

"Political scandals are my bread and butter."

"Talking of which, I'm getting hungry." He patted his belly.

"I'm sorry. I only thought of coffee."

"Talking of thinking . . . what exactly *were* you thinking when you left me in Rio?"

"I was wondering when you'd get around to that." She rubbed her knee and John sensed a degree of awkwardness he'd never seen in her before.

"Not a word . . . I just woke and there you *weren't!*" He'd been desperate, lost, in free-fall. . . .

"I had some issues."

"Maybe I could have helped. Even an unsophisticated spacer can listen."

"The issues were with you."

"Well thanks for . . ." John gasped as sudden weight pulled at every part of him. Hot coffee splashed onto his hand. Another gravity fluctuation.

Sadie leaned back and drew in breath.

"Are you okay?" John asked.

She nodded.

Gravity settled again to Retreat normal.

Sadie released her breath slowly . . . took another. "I think Red Planet needs to look at its service contract—assuming it has one."

"Certainly we have a service contract." Madame Jones was standing behind them, a stack of menus clutched to her chest. "I couldn't help overhearing your conversation. All the guests are concerned about the fluctuations. Rest assured, I'm making every effort to find the cause and get it fixed."

John dried his wet hand on his sleeve "What about vandalism? Those street kids looked pretty mean."

"Kids with the ability to hack into platinum security?" She shook her head. "Unlikely."

"Then what?"

"I intend to find out tomorrow, when the service team gets here. But if it does turn out to be deliberate . . . well, I take threats to the comfort and safety of my guests *personally*. In the meantime, try to relax. This is a retreat, after all." She hurried away, placing menus on tables.

"Yes, *relax*," said Sadie.

John examined the compressed lines on her forehead. Whatever was written in those lines, it was not relaxation. "You know more than you're saying."

"About the fluctuations? No . . . but I have my suspicions."

"Am I in danger?"

"John, you've been in danger since the moment you set foot back on Earth."

John listened to the words coming over his headset from the operator at Mariner-is Port. Faces turned toward him. He released a pent up breath, and smiled. "The back-up is on its way. In six days we'll be out of here."

He turned to Minnie. "You've monitored the leak long enough. When do we run out of air?"

Her pale face looked up at him. "If we're careful, four days."

John's thoughts were swept up in a whirlwind . . . he had to find a solution . . . he was in charge. . . . Somewhere in his maelstrom of memories there had to be an answer.

Matt Sparkes glanced around at the others. "There's air in the suits."

"Not enough," said Nakayama. "Five hours, max."

Minnie hugged herself tightly. "Is there *nothing* we can do, Sarge?"

John gazed into her huge eyes. The weight of responsibility pressed down on him. "Stay calm and keep on hoping."

"My mother advised me to go into law," said Tony. "I should have listened."

Matt Sparkes lunged up from his seat and strode forward. "You're not fooling anyone, son." He pointed a finger in Tony's face. "You're scared, just like the rest of us."

Tony snarled and shoved the celebrity backward into the cameraman.

"Corporal!" John snapped.

"The highest standards of the Service, Tony?" said Alice. "Get a grip."

"All of you, settle down." John stepped to a window and gazed out at the night. Featureless black washed out to the horizon, where a sky of sharp stars revealed the swell of the dunes. "We need to save air."

"What's the point?" said Tony. "There's no hope."

"Perhaps not much." John turned to see the terror barely hidden behind Tony's eyes. "But there's always hope."

An idea had taken hold of him. Desperate, but it could work. He looked into the fearful faces of his team and knew he had no choice but to try.

John was being pressed down into his bed. He opened his eyes to the peach glare of the bedside lamp and waited for the fluctuation to pass. Nothing changed. Gravity remained at Earth-normal. He sat up, slipped his shoes on, and forced himself to his feet.

He pulled back a curtain. It was still night.

The door burst open and Sadie rushed in. "Come with me!"

"What's going on?"

She grabbed his sleeve in answer and dragged him out of the room. He stumbled after her on leaden legs.

As they hurried down the hall, the door directly ahead opened and a man dressed in black, wearing a balaclava and carrying an automatic pistol, stepped into view.

"Down here!" Sadie shoved John into a side corridor and they ran.

The *thud thud thud* of bullets shook the wall behind him. John crashed into a small table and sent a vase smashing on the carpet. Sadie took his wrist and tugged him along.

As they reached the staircase that dropped to the next floor, Sadie pulled out a handgun, spun around and waited. The corridor remained empty. She leaned close to John and dropped her voice to a whisper. "Okay, let's head down. And be careful. He must know his way around."

John nodded and started cautiously down the stairs with Sadie close behind.

They reached the landing and Sadie shoved in front, raised her gun and stepped through the double doors. John followed.

At the end of the next corridor, they entered the dining room. The wall lamps had been dimmed and the tables set ready for breakfast. In the subdued lighting, the shadows were deep and threatening.

"Is he after you or me?" John's voice was hushed, but carried in the silent room.

Sadie slid along, back to the wall. "You're many things, John. Stupid isn't one of them."

"An assassin?"

"Vat-born and feeling very righteous at the moment."

"How do you know?"

"It's what I do . . . remember? Find things out. I suspect they aim to make an example of you."

A table lurched up on end and toppled toward Sadie. She threw herself to the side and crashed into another table, falling in a jumble of cutlery and cloth. Her gun skidded away.

The black-clad assassin loomed up from the floor.

Sadie lunged for him. He slammed his gun down on her head, grabbed her wrist and spun her around, throwing her into John, sending both of them crashing to the floor.

John rolled and scrambled to his feet, and froze. The man had his gun aimed at John's head.

The assassin tore off his balaclava to reveal a headcam.

"I'm not going to beg . . . if that's what you want," said John.

"Begging would change nothing," said the assassin. "You *know* it would change nothing."

For two more days, John watched the tension build in his crew and passengers.

When he judged that they were desperate enough to go along with anything—and he knew he could wait no longer—he told them his idea.

They were going to try to lift the craft.

Tony stared at John in disbelief. "It'll never work."

"There is a slim chance," said John. "With the lightweight alloys used in this craft, and the aid of Martian gravity, we might be able to lift her high enough to get under and repair the leak."

Tony shook his head. "What if the thing falls on me?"

"Minnie's going under the ship, not you. We need your strength for the lift. Now, suit up."

Fifteen minutes later, everyone was fully suited and crowded around the airlock. John saw Matt Sparkes staring at him, eyes wide and fearful behind the visor.

"*Engineer Yeung will lead you out,*" he told Sparkes via the radio.

Minnie opened the inner airlock door and entered, followed by Matt Sparkes and his team. With the airlock packed full of bodies, the rest of them would have to wait. The door closed.

John waited until the warning light showed the outer door was open, then took off his helmet and put it down on a seat. He crossed to a window and watched the suited figures step down onto the dusty nighttime surface, their shadows cast long by the light from the open lock. Sparkes moved away from the others and turned slowly to scan the sky.

Before Minnie could close the outer door, John grabbed a headset and adjusted the radio to the crew's private frequency. "*Minnie. Get back in here.*"

"*What is it, Sarge?*"

"*Get back in here. Just you. That's an order!*"

Minnie stepped back up into the lock and closed the door behind her.

When she arrived inside the ship, John went to the control panel and locked the outer door. "*All right, let's get out of these suits. We're done.*"

Alice pulled off her helmet. "What's going on?"

"I'm conserving air and saving your lives."

"You can't just leave them out there!" Minnie's voice squeaked in protest.

"I can't?"

"It's not *right!*" Alice yelled in John's face. Tears spilled down her cheeks.

He grabbed her shoulders and locked eyes with her. "Get a grip! They're vat-born! They're machines!"

John's reset the radio to hear Matt Sparkes calling through. "*What's going on? Why aren't your crew out here?*"

"*They won't be joining you.*"

There was silence. Then a broken voice said, "*Sergeant Hale . . . do you realize what you're doing?*"

"Yes," said John. "*I'm switching you off.*"

He killed the radio link.

Tony stepped out of his suit. "Sarge is right. They're just clever machines and you all know it."

Being right did not make John feel good, but he had no other choice. He was certain of that. He tried not to question himself, just as he tried not to hear the hammering of desperate, begging hands upon the hull.

Five hours passed before the silence outside the craft matched the silence inside.

"*Survival!*" Sadie yelled. "*The only law of life is survival.*"

The assassin's eyes widened. "*The password . . .*" He turned his gaze toward Sadie.

A thunderclap echoed through the dining room and the assassin flew forward onto

a table. His body convulsed, then slid to the floor and lay still. At the door stood Madame Jones, gripping her shotgun in both hands. She strode across the room to the edge of the spreading bloodstain and prodded the body with the barrel. "Like I said . . . I take it *personally*."

John dropped to his knees beside Sadie. "Are you okay?"

She rubbed her head and checked her fingers. "I seem to be all right."

Madame Jones gazed down at her two guests. "I'd better call the cops." She winked at Sadie. "In about fifteen minutes."

"Thanks." Sadie smiled at John's puzzled expression. "My superiors prefer that I don't socialize with the police."

John waved a hand at Madame Jones. "But how does *she* know?"

"I made a large contribution to the Red Planet Benevolent Fund in exchange for a little cooperation."

"But she wears Worker suits! I thought she was a sympathizer!"

Madame Jones arched an eyebrow at him. "You've been away far too long. This isn't politics, it's *fashion*!" Grinning, she left the room.

John took Sadie's hand. "You knew this was going to happen. You could have warned me."

"I didn't know. All I had were suspicions." She squeezed John's fingers. "Matt Sparkes was the head of an underground organization dedicated to putting the vat-born on an equal footing with everyone else. The crash was no accident. Matt's friends arranged for the Sprint to lose power over the dunes."

"Matt? You were on first name terms?"

"Yes. I liked him. His ideas had potential, but he went about things the wrong way. He wanted the incident to show mother-born and vat-born working together to survive, an extreme exercise in bonding, captured on film. But he reckoned without the air leak."

"You can't bond with a machine."

"You're very sure about that."

"It just . . . wouldn't work." He allowed his hand to slip from hers. "You knew the password just now . . . did you infiltrate their organization?"

Sadie simply smiled.

John narrowed his eyes. "It's easy to check who's human, and who's not. The DNA test is simple . . . didn't they test you?"

She did not reply.

"Tell me!" he demanded. "Are you mother-born, or not?"

"First, you have to decide whether it matters." She waited for his answer.

He felt numb and confused. "But that would mean . . ." He got to his feet. "How could you bear to be with me? To you, I'm a killer." His legs trembled.

"Maybe the capacity to understand and forgive is not dependant upon how you arrive in this world."

He grasped a table for support and stared at her, trying to mesh memories and chaotic emotions with preconceptions. "You're *not* mother-born!" He could hardly believe he was saying the words.

She stood and straightened the lapels of her jacket. "No. Do you know whether it matters?"

"Yes . . ." What did she expect from him? "Yes, it matters."

Her face fell. "What now, then?"

He looked at the blood pooling beneath the twisted body of the assassin. Did machines bleed? *Everything* was twisted, upside down, crazy. He needed time—to see with new eyes, to examine with new knowledge.

"Now?" he said. "Just get me out of here."



\* \* \*

John settled into the deep seat of the Porsche and watched the gate to the parking lot slide open. Louis Armstrong began to sing "Wonderful World."

John turned it off.

Sadie's wry smile told him she had ribbed him deliberately. She hadn't changed.

"The police won't be too happy I left the scene," he said.

"I have friends who can sort that out. My concern is to protect you. You're a celebrity ... and a target."

John closed his eyes. "So I need to stick with you."

"It wasn't so bad last time."

"Beauty and the Bigot. The press will love that."

"If we can get along together—if we can be *seen* to get along—then maybe that will teach people something."

"You sound like Matt Sparkes."

"I told you, Matt went about things the wrong way."

John turned to look at her. "Do you realize what you've done to me? I was certain that I'd done the right thing on Mars. I *needed* that certainty."

She fired the engine, turned on the head lights and started toward the gate. "I've given you an opportunity to see things differently. Only you can say if you did the right thing."

"All I know for sure, now, is that I'm not certain about *anything*."

"Maybe that's the best any of us can hope for."

She took the car out of the gateway and up the narrow lane that climbed the black hill. By the time they hit traffic, John was asleep. O

## THE SILENCE OF ROCKETS

Steeple and minaret  
climb towards paradise,  
while Saturns and Protons  
lay tipped upon their sides,  
starry firmament gone  
retrograde, stretched  
far beyond human touch.

No more shuttles  
delivering cargo like those  
wooden ships of old,  
or near-orbit space stations  
soaking up the sun,  
cloistered shadows  
from the past now settled  
upon this land.

Holy metaphor has  
replaced scientific fact,  
the majority declining the stars  
for a promise of eternity,  
the sky once again become  
a dusty concave shell, a  
container of cast out prayers,  
a cap upon the future.

—G. O. Clark



The author's present story, along with "Perfect Everything" from our December 2008 issue and about two dozen other pieces, will be collected in *Sleepless Years: Stories by Steven Utley, Boy Writer*, forthcoming from Wheatland Press later this year. While Steven's last story took place in space, he now returns to Earth to take a sharp and witty look at . . .

# THE POINT

Steven Utley

Parker has taken the point, and I slog along in his wake. The sun's ghostly orb illumines a patch of overcast from which drizzle has been falling without let-up since we arrived. Grass has yet to evolve in this world, and without extensive networks of plant roots to hold soil in place the terrain has eroded into a labyrinth of ridges and ravines. Footing is treacherous, progress slow and exhausting. Enhancing the landscape's distinctly prehistoric aspect are strange spiky plants, smooth-boled trees with feathery tops, and, in the distance, the smoldering peak of a cinder cone. The smells of sulfur and organic decay compete for dominance.

Parker is in heaven, going on and on—again—*still*—about the bounty of creation and how truly privileged we are among human beings. "We could," he exults, "spend a year here," a prospect that depresses me considerably as I plod along, mud sucking at my boots, my clothes heavy with water though we have only just left the time machine parked on a rare half-acre of level ground. "We could spend *ten* years here," he goes on, "twenty!" On and on he goes with his rambling interminable monologue, leaping from conclusion to crazed conclusion almost too quickly for me to follow, do I but care to follow, which I don't. The plain and simple truth is, I am ready to go home right now, this instant, being heartily sick of my mentally unhinged companion, who, far from running the expedition as it ought to be run, far from embodying the finest traits of our species to say nothing of the finest aspirations of our profession, is in no particular order of importance simply wrong about certain scientific matters, mentally unhinged, and neglectful of personal hygiene.

This expedition does not need a bad-smelling lunatic making life-and-death decisions. And now that I've been trapped with him here for seventy-two hours that begin to seem like seven and a half days in my memory, I find I could not care less about the prospects for research in this wilderness, either. The gray-brown-green vista is unrelieved by a single flower. The fauna tend toward mindless voracity. I want to go home, but I can't, because Parker leads the way and I am supposed to follow.

The stock of the heavy elephant gun is slippery in my hands, the muzzle in tempting proximity to the back of the madman's head. Who would be able to say that I had not simply slipped in the mud and reflexively squeezed the trigger—having, of course, already inadvertently thumbed off the safety? But I can't bring myself to commit this act. I may as a matter of course feel completely murderous toward Parker, but I am not a murderer. I'm just a man who has taken all he can of drizzle,

mud, itch, monsters, and a colleague who is the single worst person I have ever known, stupid, boring, obstinate, and disgusting.

Speaking of monsters, I become suddenly aware of something moving through the trees off to our right, across a shallow gully running parallel to its course and ours. The rain's dull sush muffles the thing's footfalls, and its somber pigmentation makes it difficult to see, but I cannot be mistaken about the deliberate care with which it places its feet. The thing stalks us. Parker hears my harsh inhalation and pauses on the lip of the gully to give me a questioning look. I shift my gaze and pretend to contemplate the leafy crown of a tree. Apparently satisfied, Parker slides to the bottom of the gully. I watch the monster slowly take form: an eight-meter-long biped like a cross between a crocodile and a rooster, with terrible jaws and mad blood-colored eyes. I hug the rifle against my breast and yearn for ordnance heavier even than the elephant gun, impractical though it might be. You want solid footing when you cut loose with big stuff.

Still ignorant of the monster's approach, Parker starts climbing up the far side of the gully. Armed with only a handgun and sunk as he is to the shins in mud, he cannot save himself when the monster makes its move. It steps out of the trees and bends down, stretching forth its neck and balancing itself with its outstretched tail, and simply scoops Parker out of the gully like a dog snatching a mouthful of food from a dish. The sounds the bones in his shoulder and arm make as they snap at last galvanize me into action. I take deliberate aim at one of the monster's hind legs and fire; still masticating the howling Parker, the monster collapses and topples into the gully. Its own bones start to pop, breaking under their own weight, as it thrashes helplessly in the mud. It lets go of Parker and utters a cry that saws through the drizzle like a blade through gristle. I draw a bead on the inhuman glittering eye in the wedge-shaped skull and put a bullet as large as a carrot through its teaspoonful of brains.

Parker, reduced to a wad of bloody rags, sprawls beside the carcass. I see—and smell—as I go down to him that he has let himself go about as far as he could, become a catalogue of human effluvia. Still, I kneel beside him, poke at his wounds. Bits of bone stick up through the shredded muscle, and two knife-like teeth broken off from the monster's colorless gums stick down into it. Parker moans, opens his eyes, looks wonderingly first at the dead monster, then at me. "Why did you wait to fire?" he gasps. "You could have saved me."

And I ask him, "Now do you admit you've been wrong all along?"

He stares at me in disbelief. I keep talking, earnestly, making my point, but I have just too much to say to him and not enough time in which to say it. He clutches my hand, squeezes it weakly; he sobs disconsolately, closes his eyes; he goes away.

I go through the motions, the ritual of feeling for a pulse, but I do not intend to hang around a few tons of freshly dead monster until every scavenger in the area shows up. Even as I scramble out of the gully, two small, crab-like scavengers are skittering around on the carcass, clicking their mandibles and pincers in a crickety tune of thanksgiving for that which they were about to receive. I felt calm, at peace.

The attendant removes the helmet; Dr. Williams is shaking his head. "Well," he says to me, "I suppose I should admit you are making some progress."

"Progress!" Parker squawks indignantly. He glares across at me from the next table. "He let that creature kill me again!"

"Yes, but at least he's no longer blowing *your* head off with the elephant gun. That's progress. Not great progress, but still . . . progress."

Dr. Williams backs away so that he can frown at both of us simultaneously. "You two take the cake. Your families, friends, and colleagues prevailed upon you to submit willingly to this procedure. You came in under your own power, and you can

leave the same way whenever you choose. The only thing you forfeit if you do quit is the sympathy of everyone who's tired of your feud."

Oh, no, I think, as Parker and I glare at each other, and each of us knows that he will never give the other the satisfaction of being the one who quit. What we would forfeit by quitting is moral superiority.

"The point of this therapy," the doctor goes on, "is to help you, both of you, resolve your differences without resorting to personal attacks and fisticuffs in public, and bringing further discredit on the scientific community. Paleontology has all it can do these days to keep creationists and cryptozoologists from defining it in the public consciousness—particularly in the consciousness of people who hold the purse strings. We don't need two of our own disrupting conferences with their personal animosities. After that last public scene of yours, you agreed, both of you, to submit to this therapy. Note that I say *therapy*, not *role-playing adventure game*. You two are supposed to be putting your personal differences aside, learning how to cooperate. You are supposed to advance through this scenario, learn as you go along, emerge better persons at the end."

Well, I can't speak for Parker, but I certainly mean to do better each and every time I put on the helmet. But I have begun to suspect that this therapy of Dr. Williams' is less efficacious than he claimed it to be. Conceivably, some personalities are just too incompatible and implacable ever to achieve accord. The scientific bone of contention over which Parker and I have snarled and snapped seems to have called up in each of us a loathing for the other that knows few bounds short of actual homicide. It isn't even a mere matter of bad personal chemistry: we don't even have to be on the same continent to hate each other. We hate each other more and more by the moment; our hatred has passed beyond words, almost beyond endurance. And here we are, wired to each other and to Dr. Williams' machines.

And even now I cannot resist sneering at Parker. "If you could have seen the look on your face when that dinosaur bit into you—priceless! Truly priceless!"

Dr. Williams motions to the assistants to replace the helmets on our heads. "Enjoy your little moment of triumph," he says to me. "This time, you take the point." O

## SINGULARITY SONG

Sometimes I imagine I can hear it,  
that sub-subsonic thrum, a B-flat  
fifty-seven octaves below middle C,

orders of magnitude below the threshold  
of even an ocean-spanning  
sperm whale's song,

a bass below bass audible only  
by inference, the cosmic drone note,  
last vibratory groan of swallowed

stars, a ripping of atomic bonds  
on such a scale it makes your  
bones ache light years distant.

I do not think it's merely noise,  
not just the seeming signal  
of a pulsar's regular static strobe,

but a ululating throat-song  
that singularities willy-nilly  
sing each other, a call

that signals all the other singular  
deep-voiced singers that still  
another galaxy has fallen in

upon itself, and the space  
it once defined now contracts  
to zero, drawing with it

the formerly receding fundamental units  
like a balloon deflating, and then,  
when the holes have swallowed

all the All there is,  
they foreshorten space with warps,  
drawing together into a point

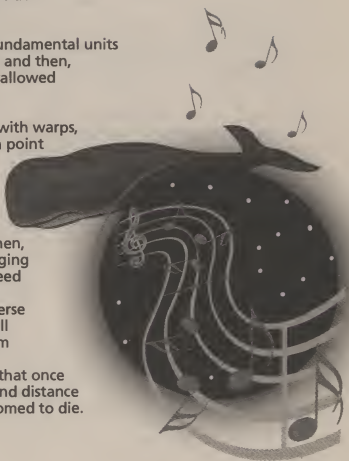
so small it's just  
here(t)here gone,  
a metaparticle leaping

to a higher state, and then,  
in a single heave disgorging  
the ripened energetic seed

of a spanking new universe  
with a metacosmic squall  
that someday will inform

other hapless lifeforms that once  
at a quantifiable time and distance  
they were born and doomed to die.

—David Lunde



# PELAGO

Judith Berman

At the moment, Judith Berman is living in the thoroughly science-fictional emirate of Dubai, where foreign laborers raise the gleaming new cities of the future for six dollars per day. Her last story for *Asimov's* was the July 2004 alien-invasion adventure "The Fear Gun," a Sturgeon Award finalist. "Pelago" is a deep-space novella that comes from a novel-in-progress, *Invisible House*. In the novel, Ari, the story's main character, will journey ever deeper into the forgotten past of the Riftside, until she finally collides with her own family's secrets.

**F**ive days into the *Hajo-aa's* passage through its door, Ari still could not discover where among the stars the door would spit out Nuna's ship. She still didn't know how she was going to escape Nuna before he learned who she was.

She had spent the time huddled in the *Hajo-aa's* dim and overheated control room, trying to parse the door math. There had been moments when she emerged from Angel-song thinking she was back in her mother's lost seedship, that the shadows around her were still inhabited by her mother, father, little brother. Then she would realize that the sounds stroking her synaesthetic hearing like soft brushes—of limbs shifting, loose hair rustling—had been made instead by Nuna's chair.

She would again have to crush her nausea and terror, again shove the bone-deep shock of her loss to a remote distance. On this ship, she could not afford anything but perfect clarity of mind.

Nuna and his monsters had so far paid her scant attention. The soldiers were whiling away the door passage with exotic pleasure organs purchased from some meatshaper's lab, and Nuna himself had disappeared into locked areas of the ship before the *Hajo-aa* had even entered its door. With only the ship to keep track of her, Ari's mother would have expected her to have at least ascertained their destination. But Ari hadn't been able to identify the Angels governing the door, and although the *Hajo-aa* allowed her to view the door math, the ship would not respond to her direct queries. Its tiny watchers might swarm through her flesh, but without the ship's blood in her, she was a foreign object, granted scarcely more agency than an empty suit of clothes.

Finally she abandoned her search and let the door math scroll up the wall unhindered. Still sleepless, she stared at the other display she had found in the *Hajo-aa's* neglected door station, which translated a few dimensions of their current locality into color, contour, and texture. Nubbly flowers raveled into cities of slick translucent rock, which in turn melted into a vista of far-off floating clouds, a sheen of rain-bowed moires like a slowly rippling sea. This, too, told her nothing about the Angelstar to which they were bound.

She supposed the rendering had been created to monitor divergence between the actual topology of truespace and their plotted route. If Nuna's door did prove flawed, if the *Hajo-aa* failed to squeeze out of its door back onto the skin of time, the ship's tiny cocoon of spacetime would shatter in a burst of actinic radiance. Then she could belatedly share the fate of her family, who were now just a spray of particles a-shiver on the seething foam of the Great Reality. It would be one way to rectify not having been with them when they died.

It would be one way to avenge their murders.

But the display showed nothing untoward, and that disaster was, anyway, an unlikely one. Nuna's door was no frayed commodity already sold a dozen times from ship to ship. It had come fresh from Nuna's boss, and wherever it was taking her, it would be good math.

Ari had reached a dead end. She had arrived late to the disaster Nuna had arranged for her family; Ari's mother had left her behind that day as a lesson, Ari was sure, in the importance of good timing. All she could do now was wait for an opportunity to flee, afraid of once more missing the advantageous moment.

The control room door clicked open, a sound shaped to her hearing like a small brass rod. Boot soles peeled from the sticky floor, pads of bristles scratching her ears. Ari, though, seemed to have forgotten where she had left her body. By the time she had uncurled her legs and swiveled her chair, Nuna himself stood beside her, hands on hips.

"*Chiyela*," he said in his mocking, glass-edged voice, "what do you at I wall?"

Beautiful Nuna-captain, with his long black hair, his sharp cheekbones and full mouth, his golden skin dusted with glass flecks: today he wore only a pair of low-cut green trousers, silky and loose, and a light sheen of sweat. He was so beautiful she could hardly look away from him, even though she knew he had remade himself for precisely that effect.

Ari's mother had liked to lecture her about her supposed predilection for coupling with good-looking, unsuitable men. In Nuna's case, his beauty only made her more afraid of him.

"I just," Ari began, and then remembered that she must not speak the pure language of the People of Heaven, but what her mother had called *that debased Riftside creole*. "I just scrub off shipmoss. No do Ship clean door-station longtime."

Nuna bent to speak into her ear, enveloping her in the musky perfume that he had selected for his body odor. He was so close that she could see the minute light-tracks of shipsight crawling across his left eye.

"*Chiyela-lovey*," he said, "I ask what you put on I wall that you look at so much. What do it-writing?"

"Door math," she managed.

"Indeed," said Nuna, "and all they pretty color?"

"Ethereal energy. Mass-shape, like. Just tiny bit of door passage."

Why was he asking? Nuna was the *Hajo-aa*'s master, its will and intention. He had only to inquire of his ship to know everything she did.

"Do it so, lovey? Do you know so much?"

"I tell you beforetime," said Ari. "I can run you door station, true-true. I make good soldier for you."

"Sure, lovey, I remember all you talk," said Nuna. "But why spy you at we?"

Ari's heart skipped several beats before she could calm it. "No spy I at nobody. I just look at math. No do there nothing else go work at, inside door."

"Could you skinplay with I soldier." Nuna favored her with a lovely smile. "So much would they like go meet I new recruit."

He straightened and scritchd to his chair. When he stroked its golden-skinned



shoulder, it stirred, shifted, and extended a graceful human hand. Nuna clasped this and pressed spots that Ari, unwilling to examine the chair closely, had taken for freckles.

Then he offered the hand to Ari. "Or maybe would you like I chair better? He still do pretty."

She shuddered involuntarily. Nuna, still smiling, released the hand and scritch-scratched from the room, leaving perfume in his wake. The arm retracted to float just above the chair's lap.

Her heart was beating too fast. *Breathe*, Ari's mother would have reminded her. On the wall, golden ribbons looped, merged, lengthened into red-gold tunnels that dissipated into mist the color of blood.

Whatever instructions Nuna had just given the *Hajo-aa* through his chair, he hadn't locked away her view of the ship's door passage. Nor had he ordered her from his control room.

But he was watching her closely after all. The danger came not just from the *Hajo-aa*'s endocytosis inside her, which could tell Nuna when she was lying, or afraid. The *Hajo-aa* had surely sampled her geneprint first of all. Ari could abandon her mother's tongue, she could cobble a new history for herself out of fragments of truth, but her flesh still carried her mother's genes, naked, in every cell. Nuna just hadn't yet thought to look for them.

Again the control room opened. This time two of Nuna's soldiers stepped in. Ari turned to face them right away, but the monsters did not deign to notice her.

"Better call repairman soon as we come out door," Shayeen, huge and blue-skinned, was saying to Powi. "Nuna hate Pelago, and he hate when Boss give he dirt-worm pickup job. Do repairman make he wait, go he sharp-sharp at we."

Powi grinned, red-lacquer cheeks creasing, yellow-glass eyes and teeth glowing. His two supernumerary pairs of arms swayed and clacked in the microgravity. Nuna's soldiers, unlike their captain, had not shaped themselves to be beautiful.

"Repairman stay at Pelago longtime—two year now?" Powi said. "Maybe go big-head eat he."

"No can they bighead loose theyself," said Shayeen crossly. "Maybe do you think it so big haha, but better hope you, no happen nothing at Boss repairman, or Boss make we-all wish bighead eat we."

She slapped the doors shut with a blue, taloned hand. Ari was cautiously relieved to hear that the *Hajo-aa* was at last arriving at its destination. She had never heard of a place called Pelago, though.

Shayeen and Powi scritch across the sticky floor toward their duty stations, giving Nuna's chair as wide a berth as Ari had. Both soldiers were sweating in the oppressive heat despite being stripped to little more than their boots. At least they had shed their more noticeable recreational accessories, although Powi's outsized chrome sockets on groin, chest and lower lip showed all too clearly where he plugged them in.

Suddenly Powi stopped, pointing with several red snake-arms. "Pretty, pretty! Shayeen, look what we *chiyela* make!"

Shayeen looked. She frowned deeply. Stepping toward Ari, she demanded, "What do you at we wall, *chiyela*?"

A little jolt of adrenaline jumped through Ari. Shayeen, unlike Nuna, seemed both surprised and angry—although it was hard to tell what Nuna was really thinking.

But right then Ari also noticed ominous clusters emerging over the horizon of the truespace rendering, clots of intense color in the fractal foam. They looked like knots of dark and baryonic matter perturbing the ship's locality. Could something be wrong with Nuna's door after all?

Shayeen ignored the display. Grabbing a chair to brace herself, she whacked Ari on the cheek hard enough that Ari saw flashes of purple light. "Shitsmear girlie," Shayeen shouted in a voice shaped like iron wedges, "go answer I! What muck you?"

"I just clean I station," Ari said. "Why do you want dirty ship-wall?"

Shayeen backhanded Ari again. "Dirty, no dirty, no matter it! Go Nuna say you touch anything?"

"He say I run he door station," Ari said, sounding even more sullen than she intended. She swallowed blood, and the pain with it. Shayeen could shatter her skull with a single blow, but the display was competing for her attention. The ship's proximate topology had warped further, the clots evolving into filaments like brilliant tangles of rainbow hair.

"Shayeen, go leave it," said Powi. "She screen do so pretty, look it like happy toy. What do it hurt?"

"Go rub you own happy toy, Powi," Shayeen snapped. "We Ship door do mess enough without she muck it further. Now answer I, *chiyela*! What go you make? What do all it Skeenhay writing?"

Ari looked at the wall, at both the rainbow tangles and the scrolling columns of ideographic math, and realized only then that neither Nuna nor his soldiers could read. She ought to have guessed. She had earlier examined the room and discovered that, except for the moss-grown door station, they had relabeled every control surface with crude pictographs.

Stupid! Ari's survival depended, among other things, on not looking like a child of the People of Heaven. On not reminding them of the Shkiinhe exile whose geneline they had recently been hired to eradicate. Ari had stumbled on Nuna and his employer two weeks ago, at a place called Toomee on the very brink of the Rift, and Nuna's seedship had at first seemed her only chance of departing Toomee before her family's killers caught up with her. Only when it was too late had she realized they were the very assassins she was fleeing. In face and body type, Ari took after her gangling Poli father, and as far as she could tell, the soldiers thought her just another Riftside mongrel. Nuna didn't expect to find Maane's daughter so close to him; he wasn't viewing Ari from the right distance, the right perspective, to find the true pattern of meaning in what he saw. She had to keep it that way.

But . . . what did Shayeen mean, *We door do mess*?

Opposing urges fought inside Ari. "No could I never muck you door," she said finally. "No do Nuna give shipblood to I, and no do I have power of touch on you ship. It-here do just—" She cast about for a way to explain in creole. "Just way go show about door passage. It do inside door station already. I just put it on wall. No do it change nothing inside shipbody."

"Why look you at it?" Shayeen demanded.

"Nuna say I run he door station," Ari said, "and no do no other soldier watch you door."

At this point in her earlier exchange, Nuna had departed, apparently satisfied. But Shayeen loomed closer, blocking Ari's view of the displays, until Ari could feel the heat of her flesh on the stifling air, could smell its burnt-sugar odor.

"Go listen, *chiyela*," Shayeen said. "Nuna-captain joke at you. Why do he need any soldier go watch he door? Boss take care all we door. He put new door in we doorbox, pull old one out. Think you, Nuna do sorry for you because you mamom enemy chase you, or whatever story you moan at he? Nuna take you for soldier only because Boss tell he to, and Boss tell Nuna, take this silly *chiyela*, so he can remind Nuna that he still do Boss. Better no do you put Nuna more angry. Or maybe Nuna slack you some sly way, hm? Just so can *he* show that no do Boss own all of he."

Shayeen turned away to swing herself into the chair next to Ari's. The foam re-

straints closed over her. Ari was about to ask why, if the doors kept going bad, Nuna did not need anyone to attend to them, but then Shayeen spoke again.

"Of course no can you read it-door for true. But better for you, no pretend that you know. Boss slack any person he think even guess at where do Pelago. Better stop you touch anything, stop you look at anything, on Pelago door."

Dismayed, Ari said, "No do you know where door open?"

Shayeen began to jab at the grids of pictographs that decorated her console. "It do Pelago, girlie," she said. "Boss door take we there, tomorrow he other door go take we away."

Ari thumbed her console to put away her displays: first the useless math, then, much more reluctantly, the ominous tangles of light.

A location unknown to any but Nuna's employer? A nasty lump curdled in her stomach. If she couldn't escape at Pelago, could she survive to reach Nuna's next destination? If the *Hajo-aa* couldn't shape its doors properly, would she even reach Pelago?

A series of pebble-shaped chimes dropped into the control room. Banks of wall displays blinked online as the ship at last crossed back over the boundary of time.

But at the same instant, an alarm ripped the air, a shrill buzz with the texture of razored cilia. Yellow glare exploded into the control room, and the *Hajo-aa*'s walls emitted a terrifying chorus of creaks and groans.

Powi yelled; Shayeen swore and burst into frantic motion. On one newly activated section of wall, an Angel now blazed, way too large and bright. But even closer—appallingly close, blotting out most of that display—hung the shadowed orb of an Angel-child, swelling larger by the second. The *Hajo-aa* had conserved the momentum with which it had entered its door, and the ship now careened toward planetary mass at thousands of kilometers per second.

Commands in the Shkiinhe language of things jumped into Ari's mouth, the ones she would have given her mother's ship, but she bit down on them; the *Hajo-aa* would never obey her. The planet, still expanding on the wall, eclipsed its sun and plunged the control room back into dimness. Powi kept yelling at Shayeen, who pounded at her console; the alarm shrielled on, now two oscillating saw blades. Then massive thrust slammed Ari deep into her chair. The planet slewed across the screen.

"*Chiyela*," said Shayeen between clenched teeth, "go you muck we door, Nuna shape you into worse than he chair. But first I-self pound you to blood spot."

"No could I mess it!" Ari gasped. Unlike the augmented soldiers, she had to struggle against the acceleration just to breathe. "And why would I try kill I-self?"

Shayeen did not answer, grimly jabbing away. An arc of hazy blue glowed along the planetary limb, swelled to a growing crescent. Then the *Hajo-aa* broke into brilliant Angel-light once more. Blue ocean turned below them, and swaths and swirls of white.

Clouds, blue air, blue ocean; that might be a living world down there. Ari had never seen one. A living world should have what she needed—a busy port, or a ship headed out to one.

Except that this place, Shayeen had said, was their boss's secret.

The vise of acceleration kept her from turning her head to take in all the new displays, but she could spot no traffic of ships or drones, and no orbital facilities of any kind, not even a machine guardian to hail Nuna's intruding ship. The *Hajo-aa* did seem to be the only thing moving above the blue world.

The razored alarm finally stopped, leaving an echoing silence in Ari's ears. The weight on her chest evaporated. Shayeen's talons clicked on her console as she spun the *Hajo-aa* for deceleration. The blue planet swung on the screen, and pressure grew again, but more moderately.

Powi said, "We door do mess longtime before *chiyela* come on board."

Shayeen growled, "Go squeeze you gashole shut, Powi, and call up repairman."

\* \* \*

The sight of Powi tapping with his snake-arms made Ari queasy. Slowing her still-rapid pulse, she unlocked her chair and rotated it a notch for a better look at the half-circle of wall displays.

Nuna's faulty door seemed at least to have opened near the right Angel. The emptiness of the blue world was odd, though. There ought to be some relics of Shkiinhe occupation, even if abandoned hundreds of years ago.

One section of wall modeled the Angel's demesne, depicting the Angel itself together with a double handful of its children. The second child, shown as a blue-and-white ball, was the only possible match for the world below. The display gave it a pair of rocky moonlets, and a third satellite in low orbit that the *Hajo-aa* represented as a red hexagon: a made thing, not a heavenly object.

The People of Heaven had once visited here, then. But where was *here*?

Another display mapped the surrounding volume of stars, flattening it into a rectangular projection. Although this showed visible light only, Ari could locate the Rift easily enough: the dark void lying between the scattered local stars and the cloudy smear of the outer galactic arm.

But the Rift was a big place, stretching hundreds of light-years from its sparse upstream head to the crowding fields of its downstream termination. The great swarm of Angels the People of Heaven called Iigmrien, which had dazzled the skies of her childhood, here lay in a compact bunch on the left side of the display—except for giant Kaenub-Angel and its siblings, unmistakable in their brilliance. These stood separate from the main body of the swarm.

As her mother had said so often: the stars are always in motion; light is bound to time. To find yourself in heaven, you must be able to envision the Long Dance of Angels from all perspectives in space and time.

With dismay growing heavier in her gut, Ari placed herself:

She was on the far side of Kaenub, gazing back along the Rift toward Iigmrien. Nuna's door had brought them a very long jump indeed. The light of this moment would not reach the downstream end of the Rift, where she had lived all her life until now, for another forty or fifty years.

Her mother had made her memorize the names of every one of the so-called Hundred Angels of the Shkiinhe homeland, as well as of the stars on Iigmrien's downstream margins that Maane had learned during her Riftside exile. That meant not just the Angels' word-names, mere print on a flat page, but the long ideographic names into which, as into the genes of a zygote, was packed the mathematical description of the radiance of their bodies and the shape of their song, the figures of their dance through time and through what lay beyond time—the currents of the Great Reality in which all their chorus was but a whisper.

So the music of Iigmrien Ari knew. This piece of the Riftside was another matter. No wonder she hadn't recognized the Angels in Nuna's door.

"Shayeen," said Powi. "No do repairman answer."

"Go you try again," Shayeen said.

"I do, so many time. No answer he."

Shayeen was silent a moment. "Should repairman know better than go poke at Nuna joyhole. Keep you try."

The *Hajo-aa* spent many hours in orbit braking and steering, aiming for a rendezvous with the red hexagon in a slow and steady fashion very different, in Ari's brief experience, from Nuna's usual extravagant mode of travel. The hexagon was evidently the place the soldiers called Pelago.

Shayeen did not banish Ari from the *Hajo-aa*'s control room, for which Ari was

thankful; she thought she was more likely to glean useful information here than anywhere else in the ship. Perhaps Shayeen preferred Ari where she could watch her, although the ship could perform that task more efficiently. Or perhaps, having delivered her warning, Shayeen had returned to ignoring her employer's newest recruit.

Two hours on, Powi said to Shayeen, "No answer repairman, and no can Ship find he."

Shayeen sighed. "Better we tell Nuna. But no do he happy." She thumbed the link band on her wrist and returned to gloomy surveillance of her displays.

And indeed, when Nuna stalked in a few moments later, deep furrows creased his perfect brow, broken glass edged his voice. "Why no do we reach Pelago yet? Why plod we so slow?"

Shayeen and Powi gazed at their consoles. Shayeen said carefully, "We have juice enough only for go brake, Nuna-ba. Otherwise we overshoot Pelago, and no way back."

"You burn too hard when Ship come out door. And why door go shitsmack *again*? What muck you?"

"No muck I nothing!" protested Shayeen. "Maybe she-*chiyela* do it. She fiddle at door station ever since we leave Toomee."

"No could she change nothing," Nuna said with contempt. "Would Ship tell I, go she even try!" He turned on Powi. "And what do wrong with you, turd-brain? How can you lose Boss repairman inside Pelago?"

"I so much work at it, Nuna-captain," Powi said. "Think I, no can he hear Ship."

"Of course he hear," Nuna said. "Can Ship find he link?"

"Sure, Nuna-ba. Ship just say, no do repairman there. Maybe he turn off link, or rip it out."

"He link do sew right to he ear-nerve, shit-dribble. No can he turn it off, and no could he rip it out from he brain, no way by heself. And never would Pelago let he leave! Try you ask Pelago direct where he do?"

"Nuna-ba, no can I talk with Pelago."

"Boss give we key for Pelago from he wayfinder, muckbrain. You station have it."

"I already use Boss key, Nuna-ba. Mean I, when Pelago talk, no understand I much-much." Powi grimaced. "It all Skeenhay, like. All one shitsmear garble."

"Why keep I such stupid soldier? Go make Ship turn Pelago talk to picture, and show repairman on Pelago map! Now, no bother I again till we reach there. Much must I finish before we meet with Boss again."

Powi sighed. "Sure, Nuna-ba."

Powi worked at his console; Shayeen began to brake the ship in earnest. Tension chewed at Ari's gut. She wondered, repressing a shudder, why the repairman would choose to graft a transceiver directly into his nervous system—although it did sound typical of Nuna's crew.

"Shayeen," Powi said, "another ship do at Pelago!"

"What!" Shayeen jerked upright. Ari sat straighter, too.

Shayeen jabbed at her console. On the display of local stars, one of the points of light swelled in size so rapidly that Ari caught nothing but the final view, a mottled gray and black sphere joined on one side to an agglomeration of much smaller and clearly artificial shapes: blocks, fat cylinders, paired swellings resembling rocket nacelles. The artifice reflected blinding glare on its Angel-side, while the night-side hulked black against the stars. Ari could not judge its scale.

"No see I no other ship," said Shayeen.

"It do hard, go understand Pelago!" Powi's snake-arms tapped over pictographs. "Ship do at refinery dock, think I."

"They steal we ship-juice?" said Shayeen, outraged.

"Here it do." A gray and black slope blinked onto the wall above Powi, the artifice viewed from a vantage near its surface. At this distance, a paler geodesic tracery showed like bones under the gray portions of the sphere. In the foreground hung the obovate swell of an old Shkiinhe seedship, a distant cousin of Ari's mother's ship but so like the *Hajo-aa* that those two seeds must have originated in the same nursery. The pearly backdrop of Kaenub's nebulae, the angle of shadow lying across the ship's glinting sandpaper hull, told Ari that the other vessel must be docked on Pelago's far side.

Who crewed that ship—a family? Or monsters like Nuna's soldiers? Maybe, maybe, it was her escape route.

"Look ship like *Hajo-aa*," Powi said.

"How do Pelago name it?" Shayeen asked.

"No can I read like we *chiyela* here," sneered Powi. His snake-arms tapped away.

"Maybe do it belong at Glass Knife posse. Boss shit heself, go Glass soldier find Pelago."

"Wait!" said Powi. "Now *Hajo-aa* give I sound-name. Other ship call itself *Chresun*."

"*Chresun*!" Shayeen slammed her blue fist against her console so hard that Ari thought it might split. "I know they freelance trashpicker! Where go they ever buy door to Pelago? Boss slack we, go we let they leave here."

"Must we bust *Chresun* now, before they run!"

"No have we enough ship-juice!" After a moment Shayeen said, in a calmer tone, "No could *Chresun* talk much with Pelago, not without some wayfinder like Boss have. And likely no do *Chresun* launch spy drone, or already would they see we and speed away. They do at dead stop. Do we sneak, and keep Pelago between we and they, go we jump on they easy."

Tendrils of fear curled in Ari's stomach. Were they serious about crippling the *Chresun*?

Of course they were. They had thought nothing of *obliterating* her family's ship.

Shayeen poked at her wristband. After a moment Powi asked, "What say Nuna-captain?"

"No answer he. He still do busy with he cargo." Shayeen rubbed at the swirls of black and silver tattooed on her bald scalp. "But we know what would Boss want, hm? Go you arm up holebuster."

Powi hauled himself out of his chair and scritchd to a new station. Anguish boiled up in Ari then, unexpected and overwhelming. Terrible pictures flashed into her mind's eye: missiles shattering the *Chresun*'s hull, people flying into vacuum, decompressing. It would be messier than the annihilation of her family, because it would leave behind the frozen and disfigured corpses of the dead. And unlike her family, the crew of the *Chresun* would have time to know they were dying. They would feel the breath ripped from their lungs.

"How can you crack they ship just for they come here?" Her voice trembled, her throat had thickened. For a moment she feared she would lose control entirely.

Shayeen turned as if she had forgotten Ari's existence. "Go shut you gashole, girлие. Or I toss you out airlock, no matter what Boss say. It-here do Boss business."

"But how could you kill—"

"I mean it, *chiyela*."

Ari clenched her fists. Her mother would have said, *Your job is to survive. Exercise dissipation.*

Ari could not prevent the *Chresun*'s destruction, not when she lacked agency on this ship. She shouldn't spend her energy on what she couldn't change.

She ought instead to consider what she might find at Pelago to help her. Squeezing her anguish down again into a hard and painful lump, she tore her attention from the poachers' ship.

The secret Nuna's boss guarded so zealously had to be more than the fuel refinery Powi had mentioned. The People of Heaven had sown clouds of refinery seeds wherever they visited and, centuries after the People themselves had withdrawn back into Igmrien, working refineries and fuel depots still littered metal-bearing rock all over the Riftside.

The size of the poachers' seedship, in relation to the curvature of the gray slope behind it, suggested that the sphere might be over a hundred kilometers in diameter. That was too large even for an orbital shipyard. And Ari could spot only a single pair of mooring sockets, one being where the *Chresun* had affixed itself. Perhaps Pelago had once owned an outer ring where people had lived and worked; perhaps the ring had been destroyed, or never completed.

The sphere bore no visible impact scars. The black patches mottling it, which covered less than a third of its surface, looked matte-smooth and featureless, reflecting neither sunlight nor starshine.

Pressure grew as the *Hajo-aa* started another deceleration burn. Their rendezvous with Pelago approached with agonizing slowness. Ari willed the poachers to notice them and flee, but in the image relayed from Pelago, the *Chresun* remained motionless. Even the sharp-cut shadows on its hull hardly budged.

She attempted the disciplines of tranquility. There were many things you could not control in the universe, and this ship, this moment, was not hers. Yes, how wonderful if she *could* take control of the *Hajo-aa* to stop them blowing up the *Chresun*. If she could punish Nuna and his soldiers horribly for her family's deaths! Not by killing them. She wanted to, but her mother would not have approved. Rendering them impotent forever, yes, seizing their ship and stranding them on a forgotten rock deep in the Rift where no one would visit in a thousand years . . .

At last the *Hajo-aa* began its final deceleration, and the sphere rose up beneath them like the surface of a moon. As the dock came into sight, the *Chresun* did launch from its mooring socket, scattering red fire across Pelago's surface. Hope rose in Ari that the other ship would escape; the *Hajo-aa* had no more fuel with which to maneuver. The *Chresun* burned past them, all red exhaust slits and swells of dark sandpaper glitter.

Then the *Hajo-aa* fired two missiles.

The slits flashed white and burst into an expanding cloud of shards. The *Chresun's* upper pair of rockets, still firing, slammed the other ship down onto the sphere. Powi whooped.

Anguish scalding her throat, Ari clenched her fists and tried to exercise dispassion.

The debris cloud enveloped the *Hajo-aa*, causing Shayeen to mutter and tweak her controls, and then a larger and denser cloud of grey-white murk rushed up from the impact site, plastering long black strings against the *Hajo-aa*. Powi yelled, "Shit on it, what do it? It stick all over we!"

"Mucky water," said Shayeen. "It freeze on we quicker than hull eat it."

The *Chresun*, lying on its injured side, fired its steering thrusters one after the other, trying to rock free of the wound it had made in the gray sphere. Said Powi, "Go I bang out they other budger."

Shayeen, hand at her ear, said, "No, wait," and in the same moment, Nuna rushed in yelling, "Go stop, stop, ass-wipe, stop!"

But Powi had already lobbed another pair of missiles into the *Chresun's* remaining exhaust slits. This time, the exploding missiles, in combination with the *Chresun's* efforts to free itself, jolted the poachers' ship out of the impact wound. The *Chresun* tumbled over the gray horizon, while another flood of dirty water and black snaking strings gushed from the sphere.



"What do you, spray of runny shit!" Nuna shouted at Powi. "Go Pelago tell you where do repairman? Think you ever, you steamy squish-squish shit-puddle, maybe no can you find repairman because they freelancer steal he? What muck go you mamom poo in you skull when you born?"

Shayeen and Powi stared at their consoles, but now this display of subservience only made Nuna madder. "Why sit we here? Go grab they trashpicker!"

"We do clean-ass empty, Nuna-ba," Shayeen said. "No juice. But—" she went on, as Nuna seemed about to burst into another flood of scatology, "no do we crack they hull. Most like, they-all still live. And no burn they nowhere. *Chresun* just drift around Pelago now."

The *Hajo-aa's* deceleration cut out entirely. Nuna pulled himself down into his chair, whose arms clasped him like a lover's. He re-knotted his floating hair. For a moment the room was silent except for the rasp of his feet as, jittering, they peeled and unpeeled from the floor.

"Nuna-captain," Powi said, obsequiously, "no do Pelago see repairman, but Pelago also say, no go repairman leave. He vanish on Pelago."

"How could he vanish?" said Nuna, with contempt. "Where do he headlink?"

"Link do inside Pelago, Nuna-ba, inside portal. But not repairman. No do he nowhere."

Nuna stilled. "Repairman do dead, then?" And, when Powi just shrugged, "Come any other ship here, beside they poacher? Go you ask!"

"I already go. Pelago say, since Boss drop off repairman, *Chresun* do only ship that come visit. And not one trashpicker pass beyond dockside, not one cross Pelago portal. Pelago just say, repairman do here beforetime, no do repairman here now, no go he leave Pelago."

Nuna said, sharp as glass, "Do it another of he trick, so much go I make he sorry. And then Boss make he sorrier."

He fell silent, gaze resting on the *Hajo-aa's* view of Pelago, where the mooring socket now loomed through a fog of ice and debris. The ship chimed a warning. Magnetic fields embraced them; the *Hajo-aa* and Pelago touched without so much as a bump; but no angular momentum transferred to the ship to give them weight. Pelago, oddly, had no spin.

"Go juice we up, Shayeen," Nuna said. "And whiletime search dockside for repairman. Then go you grab *Chresun* and rip out it doorbox, make they tell you where they buy they door to Pelago. Search it-ship and every person on it, head hair to toe muck. They shitsmear poacher alltime sniff around for Skeenhay trash, thief it away for go sell. Maybe they find repairman and steal he somehow. But no slack you not one-one single trashpicker till we clap hand on repairman. And mind you how he shape heself different way, beforetime he try run away from Boss."

Ari took a deep breath and released it, trying to force her adrenaline out with the air. The *Chresun's* crew had a reprieve, if a short one.

"Quick-quick, Shayeen!" Nuna said, and as Shayeen departed and he rose from his own chair, "You, Powi-turd, go strip off you snakies and fetch you fat link. Send to Ekka, too. We do trip inside Pelago."

"Inside—?" From the grimace on Powi's red-lacquer face, Nuna might have gut-punched him. "But, Nuna-ba—"

"Shut it, stupid. Go we see, can Pelago even stand you sick-shit taste inside it finicky mouth!" Then Nuna's voice turned smooth as skin. "You come, too, *chiyela*."

Ari jerked around and found herself staring right into Nuna's dark and lovely eyes.

"Sure, go stir you skinny sitbone, lovey," he said, now full of mocking charm. "Come help you captain find Boss precious repairman."

*Purity of the Body*

Ari climbed stiffly out of her chair and followed Nuna from the control room. The narrow corridor outside was even hotter and dimmer, the ship's air-purifying moss growing rampant on walls and light panels alike.

"Do you carry inware, *chiyela*?" Nuna called as he strode along.

A sweaty, mostly naked soldier squeezed against the wall to make room for Nuna. He smirked at Ari, and whatever was inside his hand-shaped codpiece wriggled fingers at her.

She slid past sideways. "You know already," she said. "No do I."

"Not even plugin port? No kind meatshape?"

"No kind at all."

"Virgin meat!" Nuna marveled. "And how much do you Skeenhay? Do you own Skeenhay shipkey in you genestuff?"

Ari's heartbeat jumped; she calmed it. "You know already. You ship taste I geneprint soon as I come on board."

"No ruff you up, lovey," said Nuna. "*Hajo-aa* can only tell I that you own gene enough for go run seedship. I ask about *whole* Skeenhay shipkey, gene for top kind of Skeenhay machine, like high house or wayfinder. Ship tell I, you gut and airway keep all clean-clean like pure Skeenhay person. No shed you even you own scalp-flake. You say you mamom come from Eeg Mareyan—" (so, in Riftside fashion, he pronounced *Iigmrien*)—"maybe do you have whole Skeenhay genekey."

"I mamom have whole key," Ari said. She chose her words with care, since Nuna would know if she veered from the truth. "And all they work, she tell I. But I dadad do dirtworm. No own he no Skeenhay gene at all. Sure, I have enough of genekey for go run seedship. But no know I, do I own gene for they top-top Skeenhay machine. Maybe all I have, or only part. Or maybe all I have and no do they turn on. No learn I never."

Nuna stopped and swung toward her, frowning. "What mean you, lovey, 'turn on'?"

Ari stopped too, again smoothing a ragged rhythm in her pulse. "Must you turn on all-all shipkey gene inside mamom and dadad, even before they make babychild, or no work they for wayfinder, or other top machine." And, as Nuna continued to stare at her, "Skeenhay have secret way for go turn on shipkey in they child. No born I among Skeenhay, no could I mamom make sure they all turn on."

"Indeed," said Nuna, "do it so, lovey?"

He gazed at her another discomfiting moment before striding onward. Ari followed, angry at herself. She had said nothing untruthful, so what attracted Nuna's attention must be the Shkiinhe knowledge that she had, once again, emitted by accident, like an unfortunate smell. She and her brother had always stood out in the little Riftside dometown where they had grown up, the children with the strange and scary foreign mother, who were compelled to devote their days and nights to her harsh training. There was no way Ari couldn't stand out in this company, too, but her survival depended on making her differences uninteresting.

They reached the portal antechamber. Nuna flung open a cupboard and yanked out a garish orange shirt. The rustling as he pulled it on slid against her ears like resin sheets.

A soldier entered carrying a stubby rifle. Nuna asked, "Go say I bring weapon, shit-pellet?"

The soldier was Powi, transformed. He had detached his snake-arms and donned a tight coverall that displayed flashing real-time images of his red lacquer face.

Powi protested, "This do flash-and-burn, not holebuster." But Nuna yanked the rifle from his grasp and slapped it on a sticky shelf. "No go I into Pelago without weapon!" Powi said, almost wailing. On his coverall, dozens of nightmare faces gaped and grimaced.

"No do Pelago allow it," said Nuna.

He fished a bright pink leech from a canister and poked it up one nostril. The leech squirmed out of sight. Another soldier arrived—Ekka, also newly dressed, but in more sedate clothing the shade of her slick bronze scales.

They proceeded into the *Hajo-aa*'s portal. When the outer gate opened, Nuna stepped into Pelago's airlock as quickly as if his ship had spit him out, and Ari and the soldiers followed. Pelago's air was wonderfully cool.

The lock closed and dusted them. While they waited for Pelago's endocytes to sample, clean, and mark their bodies to its satisfaction, Ari brought her metabolism up to its normal level and looked around her. The tiny room was entirely bare. Beside her, the folds of Nuna's clothing and the stray locks of his hair had settled downwards. Pelago might not have spin, but it was massive enough to impart a bit of weight to them—hardly enough to notice without such cues.

Nuna started to jitter; perhaps his leech had begun to release its fresh burden of stimulants. Then he fastened his shirt and said to her, as if he had only just noticed, "You alltime stay dress on Ship. Why no sweat you?"

Sneezing endocytic powder, Ari shrugged. "No do I move around, no do I sweat."

She wished he would not keep staring at her. She hoped it wasn't because he had once laid eyes on her mother and now recognized a trace of her in Ari's face. He had all the evidence, really, to identify Ari. If he was starting to focus on her at this distance, if he was finding the right perspective, she would have to move closer. But how would she bear it? Just standing next to him made her skin crawl, her gut churn.

Minutes passed. The lock remained sealed. Pelago dusted them a second time, and Nuna's jitter grew more pronounced.

"What do wrong?" Powi asked.

"I already tell you, muckbrain," Nuna said. "Pelago do finicky."

More finicky than his seedship, in other words. The Shkiinhe had built their notions about purity of the body into everything they made: purity of the Shkiinhe genome, which had been perfected by the Elders; and purity of the flesh, which should remain unsullied by implants or disfigurement. Some lower intelligences like seedships could be manipulated to tolerate mongrels and monsters, but Pelago was evidently not among those.

The door did unseal at last, however, opening on a hallway. This led to a larger room where Shayeen and three other soldiers clustered at a row of wall stations. A second wall displayed a view of the sphere identical to the one they had watched on the approach to Pelago, except that the seedship in the foreground was now the *Hajo-aa*. The room was built of the same pale beige ceramic as the lock and hallway, and it was just as devoid of clues to Pelago's origins or intended function.

Nuna strode toward Shayeen. "Go you find repairman?"

"No, and no sign of he, either," Shayeen said. "But we just peek here and in hangar."

"Go he at least pack up Boss cargo?"

"Hangar do empty," she said. "Bare as rock."

"Shit on he! Must we root up repairman *and* cargo?" He stalked toward an arched opening in the far wall, Powi and Ekka hurrying in his wake.

As Ari turned to follow, Shayeen said sourly, "Why do you take *chiyela*, Nuna-ba?"

"Oh," said Nuna. He stopped, gaze swinging to Ari again. "She do so clean. Pelago like *she* taste better than any of we, I promise."

Beyond the arch lay the hangar Shayeen had mentioned. This space, perhaps two hundred meters long and with a ship-sized airlock at one end, could have accommodated several seedships like the *Hajo-aa* with room to spare. Conveyor lanes for

ships and cargo, now silent and still, crisscrossed the floor in broad gray stripes. Although ice coated much of the clear roof, Ari could nevertheless make out a sunlit cliff-wall of cylinders looming above them and, beyond it, one of the vast nacelle-like structures.

As Shayeen had said, the hangar was as bare as if it had never been used.

"He move all Pelago flyer, too!" Nuna burst out. "Now must we muck it long way to portal!"

He stalked across the hangar floor, a flurry of garish clothes and flapping hair. The grain of Pelago's adhesive floor was finer than the *Hajo-aa*'s, and his footsteps rustled like paper.

The soldiers followed Nuna, and Ari trailed the soldiers. It was a profound relief to move her body in this wide, chilly space, to gaze at something beside the grotesqueries of Nuna's ship. So far, though, she hadn't spotted a single mark indicating the identity of Pelago's first owners: not a name, not a crest, not so much as a discreet symbolic pattern embedded in floors or walls. Not even color. The Shkiinhe rarely used beige and gray as geneline insignia, as those were, according to her mother, colors of earth, not heaven.

It was contrary to all Maane had taught her about Shkiinhe artifices, and also to Ari's limited experience of them. In the dometown on Boivo where she had grown up, the best efforts of residents to alter the wall colors could not stop the town's indwelling intelligence from returning every surface to a sickly yellow, emblem of the geneline that had built it.

"What do you lag about for, lovey?" Nuna called from the far side of the hangar. "Stay close to I!" He had reached a door and was slapping at the hand plate to no effect. "How go you muck it, pile of poo?" he snarled at Powi.

"No muck I nothing, Nuna-ba," said Powi in an injured tone, jabbing first at his wrist link and then a patch of link paper he had affixed to his glossy red palm. "Just, no do Pelago see we. No know I why."

"No do it see you, shit-puddle," said Nuna, "because no have you Pelago blood inside you. But Ekka and I drink it blood beforetime. I pass through all Pelago door, slip-slap, when I do here last!"

"Boss do with we, it-time," said Ekka.

A line appeared between Nuna's eyebrows. "Go I ask you talk, sticky ass-smear? No do Boss here now, but Boss go master Pelago and still he do it master. Boss key open Pelago for we."

The door remained stubbornly shut, however. As Powi kept prodding at his palm, Nuna rubbed the nostril with the leech inside it, jittered on the balls of his feet, began to pace in tight circles.

Said Ekka nervously, "Maybe, since no do Boss here, go Pelago change it mind and scrub it blood from we."

"Then we all do mucksmeat," Nuna said, "since must we still find Boss repairman, or go Boss shape we all into shithole wipe." He slammed his fist against the recalcitrant door. "Powi, turd-brain! Have *Hajo-aa* ask Pelago!"

Powi nodded, red-lacquer grimaces flashing up and down his coverall, and he bent his head over his link again.

After two or three more seconds, Nuna asked, "Could you take more longtime, shit-drip?"

"It do hard, so much must Ship and Pelago talk each other!" said Powi, aggrieved, jabbing away.

But at last the seal popped, the door slid open. Nuna stalked through it and down the long, dim corridor beyond. Ari and the soldiers followed him. Overhead, light panels blinked on and off to keep pace with them, casting multilayered shadows on

the floor. The shush-slap of their footsteps scurried beside them like dry leaves. The soldiers tried to imitate Nuna's swaggering lope, but their hunched shoulders and skittish glances ruined the effect. They knew, of course, that contrary to what Powi had said, Pelago certainly *saw* them; the very dust Pelago dropped on their skin watched them. It had simply decided not to acknowledge Nuna and Ekka any longer.

Now Nuna and his soldiers had been brought down nearly to Ari's level, mute and foreign objects. One difference still remained: because of the key Boss had given the *Hajo-aa*, Pelago would talk with their ship, even if not directly to them.

Ari lacked even that tenuous link. Unlike the soldiers, though, she was not afraid of Pelago, even if perhaps she should be. This mysterious Shkiinhe artificer aroused longing in her instead. She had never been to the Shkiinhe homeland, but through her mother, Iigmrien had pervaded every part of her life, a realm of wonders almost tangible if forever out of reach.

Pelago was a lost piece of Maane's country. And it was, Ari thought with grim satisfaction, resisting Nuna as Maane herself had not been able to.

As she could not yet see how to do.

The corridor became a glass-enclosed catwalk that dove into a black space so immense that Ari wondered if they had returned to Pelago's outer skin. Then, several hundred meters further, a mass of rock loomed up beneath them, webbed in the nearly invisible scaffolding that also cradled the catwalk. Glimmering worm-trails of track snaked across the rock, and here and there slept strings of ore carts and diamond-jawed diggers.

It required another half hour of low-gravity hiking before Pelago's refinery asteroid sank once more into blackness, and the tracks, braiding together, dove into a tubular maw that must lead to the refinery proper. The catwalk became opaque ceramic corridor again, with an occasional door or a fork leading away.

The papery echoes of their footsteps skittered beside them, ran ahead, returned to pursue them in the shadows behind. Nuna navigated without hesitation. Of course he had been here before, and maybe the *Hajo-aa* relayed a map into his shipsight. Lacking such an aid, Ari tried to construct her own model of Pelago's layout, but with the way the corridors curved, and seemed to ramp irregularly up and down according to variations in local gravity, she lost all sense of direction.

At length Nuna stopped at a featureless door just like the others. This one, too, at first refused to open. While Powi worked at his link, Nuna paced, Ekka's gaze flitted uneasily. Ari wondered what pictographs Powi used: a sketch of a doorway, a person walking?

The door gaped to reveal a wall of stacked crates. Nuna pushed down a cold and shadowed crevasse, through an icy breeze smelling of ozone. After a hundred meters they reached open space. The crates filled only half the warehouse.

Nuna stalked out onto the empty floor. "I repairman will have it ready to take away," he mimicked his employer, half in *i-shkiinhe*, half in creole, swinging in a circle to take in the entire warehouse. "But look: no do repairman touch one-one crate! And where go he hide all Pelago shitsmear machine? Without they, must we bring *Hajo-aa* right here, weself hump crate on board!"

"We load all they crate?" Ekka said. "How go we make room?"

"Not *all*, muckbrain," said Nuna, with contempt. "Ten or twelve, maybe. We just more-more squeeze."

He thumbed his link and, black hair and orange shirt rippling behind him, strode toward the airlock at the far end of the warehouse.

Out here, at the edge of the open floor, light from overhead fell brightly enough that Ari could make out the hexagonal layers packing the crates. Each was about a meter thick and perhaps three meters across, and absorbed light so completely that

she could form no impression of its texture. Where a layer had not been perfectly positioned over the one beneath, the overhang had sagged slightly under its own weight. It was the first evidence Ari had seen of the passage of time on Pelago, of change or decay.

She extended a hand toward a crate but, when the cold sharpened, snatched it back.

For a moment she still could not guess what the crates held. Then she remembered the black patches mottling Pelago's gray sphere. Long ago, someone had been coating Pelago with these black hexagons. Or removing them.

Giant nacelles, tens of kilometers long; a refinery asteroid as large; the rows of huge cylinders—those must be for fuel storage, but, if full, could service a hundred seedships—

This black stuff was hull glass. Long ago, Pelago had been intended to travel, and not just within this Angel's demesne. Long ago, someone had given Pelago a starship's hull so that it could cross the boundary of time.

The ship hulls Ari had seen before had all been seed-grown, stratified into visible layers and larded with tiny color-coded organelles. This stuff looked to be more sophisticated. It had been rendered dormant, she supposed, so that it did not absorb the matter and energy that touched it, although (she shivered in the cold breeze) it was not completely asleep.

The quantity of glass crated here was only a fraction of what would be needed to cover the sphere's exposed gray surface. But perhaps there were other, full warehouses on Pelago, or perhaps the rest had never been brought, or had long ago been carried away.

These crates might well be the reason for the fierce secrecy demanded by Nuna's boss. Ari could not begin to estimate their value. Still, freighting already-filled crates from one part of Pelago to another could not have been the task for which Nuna's boss had been prepared to maroon his "repairman," clearly a prized employee, for two years.

The repairman's task seemed unlikely to be *repair*, either. Almost everything on Pelago looked as if its builders had abandoned it yesterday. Maybe she had misunderstood *repairman*; even creole forms entirely *i-shkiinhe* in their elements didn't always retain their expected meaning.

Nuna stalked back toward them, re-knotting his hair. "Shayeen go fetch Boss cargo from here," he said shortly. "We keep search."

He led them back to the corridor. More hiking, a long, ramping climb; another door, where Powi again had to jab away at his palm. In due time this door, too, opened.

Beyond waited a vast, triangular, glass-roofed space, formed in the acute intersection of a row of storage tanks and what must be a wall of the refinery. Nuna strode across the floor, Powi and Ekka dogging his heels. Ari followed more slowly, passing in and out of the rays of golden Angel light that spilled over the cliff-wall of tanks. High overhead, a small bright shape toppled past: the ruined *Chresun*, or the *Hajo-aa* in pursuit of it.

How had the repairman vanished, if he had indeed left Pelago? She had seen nothing so far to aid her own escape.

Her mother said, the remembered shape of her voice still as clear and bright as Angel-rays: *There are always resources around you. Use what you have. Use what you are.*

What she was? She and the soldiers were all mongrels together, all of them imperfect and impure.

*My geneline is very pure, very dominant*, Maane said. That assertion had always sounded wishful to Ari; Maane's miscegenation with a son of dirt humanity was more likely to have crippled her children, rendering them unable to master their Shkiinhe patrimony if ever the exile from Iigmrien ended.

Pelago was the first artifice Ari had encountered that could tell her how pure her genes really were.

"*Chiyela!*" Nuna called across the sunlit floor, with more sharpness in his voice now than sugar. "Stay with I!"

She reluctantly hurried to catch up to them. "What do danger here?"

Powi and Ekka started at the sound of her voice. "Danger?" Ekka said.

"Pelago," Ari said. "Why do you scare?"

"Boss lose many soldier when first we find it-place," said Ekka. "They die even though we drink Pelago blood, and should Pelago protect we. But now Pelago scrub it blood from we. No care Pelago now, go we live or die."

Nuna said, without breaking stride, "Boss lose he soldier inside tank, shit-puddle. *Bighead* kill they. Boss go mistake. Think he, no would Skeenhay place ever let animal kill person. And think he, no *could* animal kill he so-hard and ugly soldier."

"You say Boss master Pelago," Ari said.

Nuna glanced over his shoulder, brow furrowing. "No do Pelago let they hurt *Boss*."

Observe, *think*, said her mother's lost voice, in the very shape of the Angel light. *Understand, so you are ready to act.*

Ari's brief encounter with Nuna's employer, at which she had begged to join his soldiers in the mistaken hope that he would laugh and send her away, had concluded with a glimpse of Boss's wayfinder, a shadow sliding across the stars. While she had never heard anyone speak Boss's name, he was, surely, an exile like Maane—perhaps the reason Maane's enemies had hired him to kill her. Boss had apparently brought his ship with him out of Igmrien. Wayfinders were the crowning glory of the Shkiinhe shipwrights' artifice: intelligences that fed on the song of Angels, that slipped in and out of time as soft as an eye blink, that spun doors from their own tomography of truespace. They floated at the pinnacle of the Shkiinhe hierarchy of made intelligences, and they were unheard-of on the Riftside. Boss's was the first Ari had ever laid eyes on.

If Pelago could resist being mastered by a wayfinder, it must be as powerful as a wayfinder.

*And what does that tell you?* Ari's mother would have asked.

To transit truespace, even once, Pelago would need a shipmind. Pelago's shipmind could only be a wayfinder's—an intelligence that could generate any door at all, for any ship at all.

Now *that* was a bit of Shkiinhe artifice worth scavenging, worth any number of soldiers' lives. Those who owned the doors, as the Shkiinhe said, owned heaven.

But the repairman couldn't have vanished through one of Pelago's doors, not without a working starship to carry him.

And, according to Powi, the repairman had not left Pelago.

They reached an inconspicuous exit at the far side, which unsealed after Powi's usual manipulations. Lights blinked on inside to reveal a bare chamber even smaller than the dockside airlock.

Nuna and his soldiers crowded in. "Go come, *chiyela*," Nuna called. "It do Pelago true portal. No trip we further into Pelago save through it."

Ari squeezed in, trying not to brush Powi's glossy red flesh or Ekka's bronze scales even through the barrier of their clothing. If she turned away from the monsters, though, there was Nuna, face to face: the clean line of his cheekbone and jaw, the curve of his lips, the perfume of his skin. Loose strands of his hair, thick and glossy, clung to her shirt. His arm and flank pushed against hers, warm, lean, and strong, as he fished the leech from his nose and flicked it into the wall receptacle.

Ari, swallowing bile, breathed slowly and forced herself not to flinch. The chamber puffd dust over them. A long moment followed while motile powder trawled their



skin, gut, and airways, in which nothing happened but a pair of sneezes that wracked Ari. Nuna began to jitter again.

Trays slid out from the wall, each proffering a single gray sipsucker.

"Pelago give we blood!" said Powi.

"It give we *drink*," said Nuna, sharp as glass. "Soon do we learn what kind."

He grabbed a sipsucker for himself, pulled out another and thrust it at Ari, urging, "Go on, go you sup!"

She began to swallow the sweet, salty endocytic cocktail it contained, keeping her heartbeat steady. Now Pelago would embody in their flesh the judgements it had made about their purity.

"Boss," said Ekka nervously. "No give Pelago drink for I." She was reaching for a sipsucker, but the tray kept retracting into the wall.

"It-drink belong to Powi, muckbrain."

"But—" Ekka began.

Nuna said, "You spend too much time at meatshaper lab, Ekka. Pelago like only clean Skeenhay meat. Powi look fright-ugly on he skin, but he gene do much-much Skeenhay, and he dig out most of he inware. No would I use so-stupid soldier except *Hajo-aa* grant he all power of touch."

"Pelago give I blood last time," Ekka protested.

"Like you say," said Nuna, "Boss do here then. He make Pelago give it."

Powi poked at his link, and even Nuna undertook a session with his wristband, but the *Hajo-aa* could not persuade Pelago to yield a drink for Ekka. In the end Nuna lost patience. "Go you wait by warehouse for Shayeen. Help she load Boss cargo."

"Pelago go kill I," Ekka said, and she actually began to tremble.

Nuna laughed, flashing his perfect teeth. "Only do bighead hungry," he said, and he shoved Ekka through the door in the direction they had come.

At last Nuna, Powi, and Ari stepped through the inner door, and the portal sealed behind them with a sigh.

A bare corridor, pierced by occasional doors, curved away into darkness in both directions. Powi's quick breathing and the rustle of Nuna's silks were the only noises to roughen the surface of the deep silence.

"Powi-turd," Nuna said. Faint disk-shaped reverberations of his voice dropped from the walls. "Go you ask Pelago where repairman stay, before he vanish."

Powi worked at his link. After a moment, he pointed unsteadily to the left. "It-way."

They set off in that direction. The curving walls threw back dry-leaf echoes of their footsteps that rustled disconcertingly loud and close.

How could she test the nature of the drink Pelago had given her—the degree of purity it had discerned in her?

"I tell Boss," Nuna said bitterly, "no should he leave repairman here, with no eye do watch he. Boss say, 'Can Pelago watch repairman better than any person eye.'"

Said Powi, "Boss save heself so much trouble, go he just copy repairman brain."

"Copy do more stupid than you," Nuna said. "It do easy, teach machine all repairman know. But it so much-much hard, go make copy that can fix all repairman fix. He know *feel* and *want* in the shape of he meatbrain, and he need feel and want for go act. No would copy know neither."

A tiny clatter jangled behind them, a spill of metal beads in Ari's ears. Powi and Nuna spun around. Ari glanced that direction, but recalling how sound ricocheted in these corridors, she looked ahead as well, just in time to catch a shadow slipping beyond the curve of the wall.

A drone under Pelago's guidance, surely, or a machine that had assisted the repairman, carrying out its assigned tasks after its master was gone.

If the repairman was gone.

The three of them set out again, Nuna breathing faster now. Then, he burst out, waving his arm in front of him, "Shit-splat! What go muck it here?"

Ari, too, had collided with the eddying droplets.

"Bighead!" said Powi, trembling. He backed away, fearful grimaces flashing over his clothes.

"Better go pimp up you meatbrain, Powi, before you stupid kill you," said Nuna. "Think you true-true, go Pelago let any bighead climb out of they tank?"

"But you say to Ekka that Pelago—"

"I joke at she, shit-dribble! Go ask Pelago what bring it-mucky water here. Then see you, no do it bighead."

Powi prodded his palm with a shaky finger. Ari wiped her face and stared at the spots of moisture on her sleeve, telling herself that Pelago would not allow anything impure into its body, or hers. In these clean, empty corridors, though, the strength of the sulfur-and-iodine stink was shocking, and even more shocking was its familiarity. Her father used to consume a rank substance called *benbi* that smelled like that, microbially cultured from a variety of Poli seaweed and imported from the blue world of Polu itself. He claimed it was a much-prized delicacy. Her mother claimed it stank up their apartment for days.

Ari shoved down the memory. *Exercise dispassion*, Maane said. *Seek understanding*.

Light from overhead showed tiny droplets drifting downward in Pelago's light gravity, swirling in the turbulence their breath and movement imparted to the air. About five meters up the corridor, a pair of cleaning drones, the first Ari had seen on Pelago, sucked the water from air and floor. Because of the drones, it was now impossible to tell how far down the corridor the trail of liquid had extended. The drones could not have made the clattery noise she had heard; they worked in complete silence except for an occasional sputter of indrawn liquid.

Nuna had already started onwards. Then Powi blurted, "Nuna-ba, Nuna-ba, I ship-sight grow dark!"

Nuna stopped and blinked. He jabbed at his wrist link. After a long moment he said, grimly, "Pelago scrub not just it own blood. It clean *Hajo-aa* from we, too."

"No trip we further," Powi implored, and then, with a note of panic, "Go Pelago even let we leave?"

For an instant, fear surged through Ari, too. Was *this* the repairman's fate, Pelago first erasing its markers of agency in him, then purging its body of unclean things?

"We still do link to *Hajo-aa*, muckbrain, through Pelago," Nuna said, "just like other side of portal." With shaking hands Powi poked at his palm, nodded. Nuna went on, "Can we step along without shipsight or shipvoice. Just go show I where repairman busy heself."

"I lose I map, Nuna-ba," said Powi.

"And where do you lead I, fart spray, just one-one second before you sight fade?" Powi pointed to a door just beyond the waist-high cleaners. "Then go open it!"

But that door slid open as soon as the three of them drew near.

Faces all over Powi's coverall gawked in surprise. "Pelago give we blood after all!"

"You do so stupid," said Nuna, pushing through the doorway.

Beyond lay a maze of rooms furnished as living apartments, eating lounges, and laboratories, but containing no trace of recent occupation. Even the walls were clean of moss, as if the repairman had breathed too little air to compel Pelago to grow any. Each door slid wide as they approached it, but Ari had no opportunity to determine which of them Pelago opened it for.

Then, through one doorway, she again heard the sound like polished metal beads. It was fainter this time, hardly more than a brush of tactile-topological synaesthesia

along the outermost skin of her hearing. On the other hand, the sulfur-and-iodine stink that wafted from that room was very strong.

Perhaps the others didn't notice, because they continued through the doorway with no more than the usual swagger (on Nuna's part) or (on Powi's) a nervous shuffle.

"It do Pelago control room!" Nuna said. "But repairman muck it."

Ari stopped on the threshold. This chamber was much larger than the *Hajo-aa's* cramped control room, perhaps twenty meters across. Some of the duty stations, display tables, and acceleration chairs still sat in neat parallel arcs; others had been ripped out and shoved aside to make space for a clutter of cupboards and tables dragged in from elsewhere.

Nuna stalked through the room, slapping consoles and displays to no effect. "Go trip in, lovey," he ordered her. "Stay next to I, and no touch you nothing." To Powi he said, "Go on, shit-drip, turn all they on!"

Ari stepped toward Nuna, watching for more dirty water, checking beneath chairs and behind tables for what could have shed it. The floor was springier here and more porous; the ceiling shone brighter, too. One section was dimmed—the first thing she had seen on Pelago not in perfect repair.

When she absent-mindedly braced a hand against a console to peer behind it, light, color, and shape flashed into displays all across the room.

Heart pounding, she snatched her hands back and tucked them into her armpits. Nuna, luckily, was not looking in her direction. "Here it do!" he exclaimed, stopping beside a table where a model of Pelago had begun to blossom into translucent solidity. He slapped the blank work surface at the base of the display column, but the table still did not respond to him. "Now have Ship go show I Pelago doorbox, Powi-turd. Hurry!"

Powi blinked. "Doorbox?"

"Pelago do starship once, muckbrain. Go find it! We go fetch it away with we."

"But, Nuna-captain," Powi said obsequiously, "Pelago doorbox belong to Boss."

"And go remove it do repairman big job here."

"But no have *Hajo-aa* room—" Powi began.

"Just look you, pebble pool!"

It would be a fruitless search, Ari was sure. Whatever instructions Nuna's employer had given the repairman, Boss must have kept Nuna in ignorance of Pelago's true nature. A wayfinder had no need for a block of memory dedicated to the storage of door equations fed to it by other intelligences.

Still, hands in her armpits, Ari edged closer to the exquisitely detailed model. It confirmed the general notion she had formed of Pelago's layout: dock, refinery, warehouses, and asteroid haphazardly accreted to the orderly geometry of the four nacelles and the sphere. On the last, Pelago had overlaid an elaborate three-dimensional grid, and Ari could also see how the disk-like module where they now stood was affixed to its north and leading pole.

Then, still careful to examine possible hiding places, she drifted away through the room. Pelago's makers had possessed the luxury of space to install more display tables than she had ever seen in her life before. Some of the labels were hard to parse, however. *Fuel Supplies* seemed clear enough (all tanks full). But what about *Disengagement Sequence*; was she reading that correctly? And *Engine Status*; could all four engines really be on line?

That last caused her to stop, unease prickling up her spine. By now Ari had gathered that the repairman served Boss with less than complete enthusiasm, and he had had two years, after all, in which to lay plans against the return of Boss' soldiers.

But what could he accomplish, where could he go, by firing those huge engines? Massive Pelago couldn't accelerate fast enough to escape the *Hajo-aa* inside space-time, and it couldn't depart through truespace with only scraps of a proper hull.

Beyond *Engine Status* another display caught her gaze: a sphere a-glitter with stars and dust.

It contained half the swarm of Iigmrien.

Ari walked to it, put her hand against the display column as if she could thereby slip inside Angel-song. Of course she could not feel the shape of heaven; the gel medium was hardly more palpable than a breath of air.

But a glowing yellow pointer blinked into existence inside the gel. Moved when she moved her finger.

She closed her fist and the pointer vanished; tucked her hands in her armpits and took two steps back.

Nuna and Powi's search still absorbed them. She fixed her gaze on the fragment of heaven so that Pelago would know where to answer her. Quieter than a whisper, she mouthed words, not in *i-shkiinhe*—the language given by the Elders to the People which, despite its perfection, was mutable like every human tongue—but in *i-naat*, the language of things, which never changed, lest the millennia erode the capacity of the People to command their machines.

"Show me the map for the Angel of this demesne," she told Pelago. "Show me thirty years of heaven."

And Pelago showed her.

She was part of Pelago's body, she *was* the one the rooms had opened for.

And Nuna would have guessed this already, because the displays hadn't responded to him or, evidently, Powi.

The command *map* altered the glory of light to a less beautiful but wonderfully tidy stellar chart. Colored beads modeled stellar type, size, mass, and luminosity; dust showed as silvery clouds; apparent folds and twists of the display medium hinted at etheric gradients.

The map told her Angel-names, too, but not the familiar ones. Giant Kaenub was labeled *Kbe*; red Shriar was *Shra*. Pelago's Angel, the small yellow bead at the center of the map, bore the poetic but mathematically meaningless title *Ani Chrenash Nege*, Angel-Mother-Father-of-Blue-Water.

On impulse, Ari mouthed to Pelago, "Run the map backward in time, to when your makers brought you to this demesne."

And then she watched while Mother-Father-of-Blue-Water slipped back along the Riftside. It was being pushed toward the Rift, *tossed* out of Iigmrien, by massive Kaenub and its siblings. The date in the display was running backward by hundreds of years, thousands of years, heavenly not planetary years, the Elders' years—

Cold awe scurried up Ari's spine. No wonder she had trouble reading Pelago's graphs; Pelago had been brought here before the Shkiinhe had even left the Elders' service. The Elders themselves must have dispatched Pelago. But for what purpose?

No, no; she had to focus on the here-and-now. "Show me the full name of this Angel," she mouthed to Pelago, "its mathematical name."

The display dissolved back to starry darkness.

Pelago didn't know that command. Or would not respond to it. Maybe she needed to be Pelago's master.

Ari glanced again at Nuna, who was pacing while Powi worked at his link. She stepped quickly forward to place her palm on the base of the display. Pelago responded by throwing column after column of ideographs onto the work surface. It was not math, though.

"What do it?" Nuna roared. "*Chiyela*, go I tell you touch anything?"

Belatedly Ari saw that the same columns of graphs had flashed onto every work surface in the room.

Powi gaped. "*She* make it?"

Nuna stalked toward her. Ari stepped away from the table so he could not trap her against it, but she didn't dare attempt one of her mother's techniques of transformation that could redirect the material vector of Nuna's rage. She could not afford to resemble an exile's daughter to any degree.

So she let Nuna seize her wrist and crush nerve against bone, until electric bolts seared up her arm.

He brandished a glass knife in his other hand. "Go you touch *nothing*, perfume-ass girlie!" he yelled. "Or think you, because Pelago like you meat better than I, it go stop I clip off you lovey finger, one by one?"

He sharpened the pressure on her radial nerve until white light sheeted across her vision. Then a piece of ceiling flew down at the two of them. A ropy black mass and a spray of stinking water burst after it.

"Bighead! Bighead!" Powi screamed.

The impact shoved Nuna to his knees even as, roaring, he sliced upward with his knife across the monster's writhing appendages. A sticky-sharp rope clutched at Ari's neck; Nuna severed it, freeing her to stumble backward. He slashed and slashed, scattering pieces of tentacle, until the creature at last fell still.

Breathing hard, he climbed to his feet. Water drenched his torn shirt, and bleeding gashes crisscrossed his chest. For a moment, though, the tension had fled from him, and he was all grace and beauty, exhilarated.

With an effort Ari calmed her wildly spiking pulse. She took a step toward the thing again, then stopped to avoid the slow rain of water and blood.

The monster's head bulked larger than a human torso. Five scissoring bony plates rimmed its mouth, and palm-sized lidless yellow eyes circled the monster's head—ten of them, she guessed, to match the radial symmetry of the legs. The tentacles, each longer than she was tall, appeared smooth to the touch, but the raw scrape on her neck, Nuna's bleeding cuts, testified to hidden edges.

"No can they bighead get out, you say." Powi's voice shook. "No would you let I bring weapon."

The furrow between Nuna's eyebrows reappeared. "Pelago let I bring knife, squishy turd, because never can knife hurt it precious body. But no do it-thing bighead. It do puppet." He showed his knife to Powi, the transparent blade of which was entirely clean of body fluids, and then he kicked a nearly-severed piece of the monster's head to expose, not alien flesh and organ tissue, but pale rubbery foam that contained finger-sized slots for memory sticks and other bits of hardware Ari did not recognize.

A puppet indeed. Beads of water nevertheless clung to the thing, and it stank of iodine and sulfur. As did she now. Her shirt was soaked.

Powi took a shuddering breath and craned his neck to peer into the dark cavity exposed in the ceiling. "How do puppet happen there?"

"Maybe they bighead send it for go grab I," Nuna mocked him. Then he turned to Ari, his voice so sharp it could have cut her. "*Chiyela*, Pelago like you pure Skeenhay meat so much, it give you blood and leave we blind. But no forget, you own one-one single way go leave Pelago, and it do *Hajo-aa*. And I do *Hajo-aa* master. Stay close and no touch you nothing, and make very sweet for I, or I go, I go knife off you hand and leave you behind."

He pointed with his knife at the nearest display. "You so much boast you can read. Go tell I what it-writing say."

Nuna had surely not dismissed from his mind the question of how the puppet had gotten into the ceiling. But, as he ordered, Ari turned to look at the text.

The celestial dates accompanying it were clear enough, and so recent that they must refer to the repairman's tenure here. Scrolls and dots and slashes elaborated the graphs themselves, however, into such complex shades of meaning that she could bare-

ly decipher them. Maane had told her that the writing the Elders had given to the People was like *i-naat* and never changed. The ideographs signified, not ephemeral sounds or mutable grammar, but eternal meanings, so that you could read records a millennium old as easily as last year's. Now Ari had to wonder if it was true.

Many occurrences of *cephalosoma*, *head-body* beings: she could guess those were the creatures the soldiers called bigheads. *Sonolexicon*, *kinosemy*, *neuroanatomy*, *histolysis*, *enzymology* . . . It was technical vocabulary. She understood the elements, but her Shkiinhe education had been in what her mother called matters of heaven, not of earth. Her rudimentary knowledge of comparative biology came mostly from the Poli side of her schooling—which had been in her father's language.

"No can *chiyela* read so much, then?" said Powi. Smirks flashed across his coverall.

"It all do what repairman study," Ari said, "all about bighead and how it live, like." She pointed to the black puppet sprawled on the floor.

But Nuna had lost interest already. He shoved Ari toward the jumble of cupboards and tables crowding one side of the control room. "Go tell I what repairman work at here. But first, *chiyela*, put you two gropy hand where I can see they."

Ari tucked her hands in her armpits, the crushed nerve still twinging in her forearm, and let Nuna propel her through the clutter.

Then he jerked to a stop, breathing hard. His hand fell from Ari's shoulder. His fingers began to twitch.

At the epicenter of the chaos sat a medical couch. The diagnostic and healing apparatus had been retracted, and a partially disassembled maintenance machine—a dozen neatly folded tool-tipped limbs atop a segmented, extensible body—was strapped to the padded gray surface. Curved plates of resin, in which conduits of various sizes and colors had been grown, lay alongside. A faint aroma of solvents hung over the couch, mixed with the stink of sulfur and iodine.

With his knife Nuna hooked a tangle of nearly invisible filament from the pile. "How go he pull it out?" His voice began to rise. "Boss say, go repairman try touch he link, he body seize up like rock! Boss say, no do Pelago let drone touch repairman, and never do it let repairman teach machine go do it! Boss say: 'I do master of Pelago, I think of everything!'"

He flung himself away and began to stalk in circles, slamming tables and equipment cupboards, his hair flying, garish clothes flapping, bleeding skin a-glitter, bright and violent as an Angel tangling truespace.

How, Ari thought suddenly, could any Riftside bigman who made so many miscalculations, renegade Shkiinhe or not, keep Nuna leashed?

The answer was, of course, Boss' wayfinder. Those who owned the doors owned heaven.

As if sensing that her thoughts had turned to him, Nuna slowed and came up beside her. "Now come you big-big moment, lovey," he said, his sugar-syrup voice laced with diamond shards. "Now can you show you captain do you useful, do you for true read Skeenhay writing?"

"I can read," said Ari. "Just no do I know all they animal word."

"Then help I find out, *chiyela*, how repairman move he brain from here."

"Move he brain?" she said.

"Do you any more smart than Powi? From here! From it!" He stabbed his knife at the couch.

She looked, but could make out nothing she hadn't seen before. "It do machine."

Nuna laughed in her ear. "It do repairman. He run away from Boss too many time. He move he brain beforetime, once-twice, when he try hide herself. Last time Boss punish he, and no go he give repairman back he meat. Boss lock repairman brain in he own tool-drone."

Ragged shock rushing over her skin, Ari stared at the disassembled equipment. Who would even imagine creating such an abomination, much less carry out the thought?

But why did she keep being surprised? Look at Nuna's once-human chair. She already knew about the repairman's head-link. They were ready to kill every person on the *Chresun*. *They'd murdered her family.*

Boss must have supplied motor connections so that the repairman could operate those tool-tipped limbs. Must have allowed some perceptual input to replace the senses ripped from the repairman's awareness.

But Boss had intended punishment, imprisonment, amputation. Ari could not suppose but that it had been as quick and brutal a job as any meatshaper could make it. Gone would be the symphony of skin talking to self about the world: sharpness, heat, cold, pressure, wetness, roughness. Gone would be the trickle of moisture on tongue, the rustle of hair on scalp, the crack of joints unfolding, the swell of breath and the rhythm of heartbeat, the resonance of sound in muscle and bone.

Gone, too, the lightness of joy in your chest. The knot of anxiety in your throat, the squirm in your foot soles from fear, the swelling heat of arousal, the sick chill when you have yet again caused disappointment, the searing coals of smothered anger.

Boss would have had to leave the repairman *feel* and *want*, as Nuna said. But what were either of those without a body to know them?

Ari heard her own voice ask, hoarse and unsteady, "Why no do Boss let he leave?" "What," said Nuna, "think you they repairman just float around like so many rock? Boss repairman do almost like shipwright, he so good."

He touched her nape and she flinched, which made him laugh and press against her side. Then she felt another caress: Nuna's glass blade, cool and smooth, on her cheek.

"*Chiyela*," he said, as soft as she had ever heard him, "*chiyela*, I know you play tricky, tell I just bitty-bit of all you know. Go tell I now how repairman cut Boss link out of he brain, and what he turn heself into this time. Show I, do you have some use beyond you pure lovey meat. Most-most time, no own I no use for plain meat. *Hajo-aa* carry too much already, and it just drop shit and breathe up air, and make too much moss grow on I wall. Do I just as happy go toss you into tank-water for bighead snackies. I know they go eat you quick. Longtime I do soldier-captain and many time I see even purest Skeenhay meat die, as easy as any mongrel."

The knife blade slid against her cheek. It was so sharp that at first she did not feel the cut itself, only an ache somewhere under her skin, and a faint tickle as blood welled out.

Then fire raked her face.

That cut; the heat and scent of Nuna's body; his breath in her hair; the grief and the hatred that would shatter her if she did not keep pressing them down, down, down: maybe the repairman was after all lucky to lose his flesh. *Feel* and *want* was a terrible landscape to be trapped in.

*Exercise dispassion*, Maane warned.

She should help the repairman escape his unspeakable bondage.

Her mother would have said: her own survival was far more important than a stranger's.

Ari had always wanted to scoff at her mother's obsessions, to defy her strict rules, to resent her impossible demands. But Maane had proved right. Maane's enemies had found her at last, as she had always predicted. Ari should have been with her family then. She wanted to be with them now. The only atonement she could make for all her petty rebellions, up to and including her tardiness on the day of her family's murders, was to follow Maane's instructions to the letter now. Survive.

She would bury her guilt, she would crush both her revulsion for Nuna and her horrible attraction to him. She would master herself.



Surviving meant, though, that she had to step out of Maane's world of purity and into Nuna's corruption forever.

Maybe Nuna's demand would be easier to resist if the puzzle of the repairman's disappearance was not a seduction all its own. Inside Ari, thought-shapes were tiling together without effort, burgeoning into brilliant geometries of meaning: the ancient past of Pelago, the near past of the repairman.

"Must you let I touch Pelago," she said finally, in despair. "Do it take longtime go find repairman, otherwise."

Nuna laughed, letting his knife fall away. Another ticklish drop of blood welled from the cut, and he smeared it with a lingering thumb. "So much you do haha, lovey! Now go stop you joke. Tell I what must *Hajo-aa* turn on."

With a hand that felt controlled by some other intelligence, Ari pointed into the clutter, where a crescent of now-dormant display tables, some toppled by Nuna in his rage, formed a ragged arc around the medical couch. "Go show what repairman run on they, right before he vanish."

Nuna nodded to Powi, who jabbed at his link until an ear-shattering scream split the air. "Stop it noise!" Nuna bellowed. Before Powi managed to shut it off, Ari glimpsed intricate swirls, slides, and knobs of high-frequency sound, all too tiny to view properly.

In the renewed silence, Nuna frowned at the images that had begun to flicker in the display columns. "What do all it bighead?"

Most of the columns showed a bighead pulsing in water, its tentacles splayed, or curling, or winding about its body. There were also models, flicking into progressively finer scales, showing the repairman's machine body along with the resin case that had contained his brain, and then the brain itself implanted with the net of Boss' inhibiting transeiver, and the connections that in an ordinary human would link to cranial nerves, spinal cord, circulatory system—

"They talk," Ari said. "Repairman explain to bighead, how they go remove he brain."

"Bighead talk?" Powi scoffed. "They do animal!"

"Pelago call that . . . 'movement-meaning,'" Ari said. "Bighead talk with sound and also with they arm, like."

Nuna frowned deeply at the curveting monsters. "Boss say they animal, this just Skeenhay water garden!" He shook his head. "But talk or no talk, it do longway from they go cut Boss link out of repairman. How go bighead ever come into Pelago, use Pelago machine? No do Pelago like meatshape human soldier. Why go it let in *alien*, person or animal?"

"Boss give repairman all power of touch at Pelago, no?" Ari said. "Except for do work in he own brain. Maybe, go repairman make special shipblood for bighead."

"Can he?" Nuna asked.

"Sure-sure," Ari said. "Do he know enough about bighead body, so no grow they sick from it."

"So what happen at repairman? Go bighead stick he brain into bighead body?"

"They meat do so much different," Ari said, "Easier, think I, go repairman fix up special puppet for he brain, then hide with real bighead."

"But why do Pelago say he vanish?" said Nuna.

Ari looked down at the disassembled tool-drone. The solution to that mystery lay right in front of them.

"Pelago do Skeenhay-make," she said. "It see big gap between person and machine, and no like it go think about any in-between, impure thing." She turned to Powi. "When *Hajo-aa* ask Pelago go search for repairman, do it say, 'Go look for person?' Or 'Look for machine?'"

Faces all over Powi's body stared at her. Said Nuna, "Answer she, muck-drip!" "Hajo-aa just ask Pelago, go look for repairman," Powi said. "And also for it-link repairman have."

"But," said Ari, "how do Hajo-aa think about he? Do repairman ever work on Hajo-aa when he in human meat? Go he ever drink Hajo-aa blood?"

Powi still looked bewildered. "Sure he do," Nuna said impatiently.

"But repairman always live in he machine body when he do at Pelago, no? And what go Boss tell Pelago about repairman: 'It do I machine?' Or, 'He do human?' Go you ship ask Pelago about *person* with link in he, and Pelago think repairman do Boss *machine*, no talk ship and Pelago about same thing. Pelago tell Hajo-aa, 'No do person here, no do Boss link in no person at all.' So Hajo-aa tell you repairman vanish."

Nuna was shaking his head. "Do you so smart, *chiyela*, go you tell how I find repairman in whole moon of shit-fill water?"

"Bighead have *all* sphere for they live in?" Ari asked, dismayed. "You say, 'tank.'"

Nuna laughed. "It do big-big tank, girlie."

Ari glanced away. She was betraying every law of heaven and earth, and complicity would coat her like slime forever. But she had already made her decision. "Must you look at all machine inside Pelago."

Nuna hurried them across the room to the model of Pelago. "Go on, go on," he urged Powi. "No, *chiyela*, touch you nothing."

Powi sent the new message to the Hajo-aa. Meanwhile Nuna paced, and Ari tried not to think about the desperate repairman.

A hundred blinking dots lit up, scattered throughout Pelago's body. "Ask Pelago next," Ari made herself say, "do it show only machine that have they own intelligence. Not Pelago drone."

Powi hesitated. "Go on!" Nuna said.

Powi stabbed at his palm, but to no effect. "No can I, Nuna-captain," he said. "No have I picture for it."

Nuna's hands twitched. "Then, shit-log, go show I machine and drone that move right now!"

Another long delay followed. Nuna stalked in agitated circles. "Every command do take you so longtime, worm of poo, could repairman build whole starship!"

At last the majority of lights disappeared. The dozen remaining all blinked inside the gridded, moon-sized sphere.

"Which one do repairman?" Nuna demanded.

"No know I, Nuna-ba," Powi said. "No know I how go ask."

Nuna's teeth ground audibly. His gaze came to rest once more on Ari. "How long-time, *chiyela*, take you go find repairman?"

"Not much."

"Go!" he said, pointing with his chin. "Go, go!"

She was not going to speak *i-naat*, a skill Nuna clearly did not share. Instead she touched her finger to the display column. A pointer blinked into existence. Scooting it to the dockside, she indicated the Hajo-aa to Pelago, then, on the work surface, drew the graph for *pertaining to*. Pelago responded by showing all those beings and things in its body that carried the Hajo-aa's endocytes: she, Nuna, and Powi in the control room; and not far from them, just inside the sphere, a single blinking light, the machine-person-puppet that was the repairman.

Ari marked that light for Pelago, then traced the graphs *repair* and *machine*. Pelago thus labeled the light.

"Go send map to Powi," ordered Nuna. "Now call closest diver to we—"

"Diver?" she asked.

"Machine for water we go ride in. Call it, then tell Pelago no do it help repairman,

or he bighead friend, go track we. And then stick both hand deep in you girlie crack, *chiyela*, and no take they out till we once more trip onto *Hajo-aa*."

### *Ocean Inside*

Powi's new map showed them a lift that would take them down to the entrance of the sphere. "When go diver reach we?" Nuna demanded as he strode along.

Powi poked after the answer to this query. "Two hour, maybe."

"Shit on it! Why so long? They diver move fast beforetime."

They entered the lift. Nuna rocked, retied the loosening knot of his hair, began to jitter in earnest. On the door, the names of levels brightened, darkened. Pelago had labeled the sphere itself with a pair of ideographs, the first of which read clearly enough as *shuren*, large tank. The second graph Ari had read in the control room, in Pelago's Angel's name, as ordinary *chren*, water, despite its modifier strokes for expansiveness and formlessness. Now the ghosts of other, matching shapes jogged from memory: in *shataan dhiar*, a living but entirely pelagic world; and in *dhi se shu*, archipelago.

Words she had never heard spoken, characters memorized and never used, notions until now intangible for Ari, who had never walked on anything but artifice or airless rock.

*Dhine shuren*, Pelago called the sphere, pelagic receptacle. That was a strange topology under her tongue: vast inchoate liquidity; hard, bounded container. But the soldiers' creole versions—naming it a "pelago" or a "tank"—stripped away the shape of grammar itself. Better, maybe, just to term it a pelagikon, a sample of ocean.

But what an effort to shift that water between the stars! Pelago must have required decades to move Angelward from conditions where a door could squeeze that much mass over the boundary of time.

The lift opened onto a brightly lit staging area lined with cabinets and equipment racks. Here the sulfur-and-iodine stink was very strong. Nuna stalked across the sticky floor, then stopped abruptly and with much scatology waved his arm in front of his face. "Mucky spray drift here! Go you watch, repairman leave more trick for we."

He did not follow his own advice, though, but strode from cupboard to cabinet, flinging open doors, yanking out trays. Some were empty, some held neatly stowed assortments of gear. Ari edged toward the far wall, where transparent panels, alternating with a line of airlocks, looked out into green-lit murky water. That illumination had to be artificial. The pelagikon's surface here would lie directly beneath the control module.

A row of carts had been parked at one end of the airlocks. Each had been modified to carry a transparent, two-meter-long tank just large enough for a cramped big-head, along with various tool-tipped arms that the repairman's helpers must have operated from inside.

Most of the tanks stood empty, but the last, parked askew, remained half-full of turbid water. On that one a grappling arm hung loose as if damaged. The fine droplets still drifting toward the floor showed that its last occupant had climbed out only a few minutes ago.

Nuna stalked over to the carts. "Bighead ride in they?" He jiggled the damaged arm, then shoved at its cart. As it rolled on sticky treads, the arm vibrated against the side to produce the clattering Ari had heard earlier. It also knocked a cloud of drops into the air. She backed up hastily.

Swearing, sweeping an arm in front of him, Nuna crossed to another bank of cabinets. He flung open a door to reveal ranks of long, flat, transparent cases.

Inside each floated what looked like a limp pressure suit. He stared at them with uncharacteristic stillness. "Repairman leave *they*."

Then he said, "He try slow we ever since we step onto Pelago. He block Pelago door,

he hide puppet, maybe do he even make Pelago eat it old blood from we. He send all they diver deep inside, and now he try hold diver back somehow, I know it. But move we fast, go we mess he plan. Do we use watersuit and scooter, can we meet it-diver near halfway."

"Go into tank without diver?" Powi cried out, from the other side of the room. "Big-head kill we!"

The notion horrified Ari as well. "How Boss soldier die beforetime?"

"Sure, *chiyela*, you do right," Nuna said. "Boss send we outside diver go look for trashpick. All do lovey-lovey until some muckbrain soldier shoot at bighead, and then they all come at we. But look you, with scooter we speed quick as diver, and you already keep repairman from go track we."

Ari groped desperately after arguments that Nuna could not ignore. "Do they suit range so far?"

"Scooter power last longtime. Can we swim with we own body, too. Suit use we lung for go suck air from water, so breath last while we live."

"Could bighead track we."

"How, without Pelago help?" Nuna scoffed.

"With scout, like. Repairman could give link to they. Maybe weapon, too."

That silenced him for a moment. Then he said, "Then must we speed to diver quick-quick, and surprise they."

Ari stared at him, appalled. Venturing into a tank a hundred kilometers across, populated by clever, carnivorous, technophilic monsters, with only these suits which she, at least, had never before operated; it was reckless beyond belief! Had Nuna's leech overwhelmed his judgement utterly? Or was this just his standard mode of operation? The repairman couldn't leave Pelago. Would Nuna's employer really punish him for losing the repairman into the tank when the fault lay with Boss's own misjudgements?

Or was Nuna desperate for reasons of his own? Could they pertain to the *Hajo-aa's* failing doors?

*Repairman do almost like shipwright, he so good.*

"But, Nuna-captain," Powi pleaded, "why do repairman leave suit for we, unless he plan some trick, muck they suit?"

"Maybe do it last-last thing repairman expect, we wear only watersuit into Pelago," said Nuna. "No matter it. Can *chiyela* stop all repairman plan. Always would person with shipblood in she own more power of touch than machine."

Which still left, Ari thought grimly, the *bigheads* with ship's blood in them. What power of touch had Pelago granted them?

If the Elders judged bigheads to be persons, they might well have regarded them as the equals of ordinary humanity.

But the Elders had put Pelago into the hands of their chosen human servants, the People of Heaven, whose flesh they had purified for travel between worlds. Ari was not wholly Shkinhe, but that the divers moved at all was evidence Pelago thought her purer than the repairman or his friends.

She had another dozen or hundred objections to Nuna's plan, but he had pulled open a drawer and yanked a suit through the gasket. He thrust the suit at her, soaking her shirt with sharp-smelling liquid. "Stroke at it, lovey, go stroke at it!"

She turned it over. At her touch, indicator lights blinked to life on wristbands, chest, eyepate. The fabric was spongy, supple, and terrifyingly thin compared to a vacuum suit. The very thought of entering the tank with so little protection dizzied her.

"Should we send in many-many puppet instead," she urged Nuna. "Could they search for repairman and grab he. Could Pelago run they like drone."

"You do so clever, *chiyela*," he said. "No do you clever enough. So many hour pass

for go fix up puppet, whilettime repairman boost all he clever plan into action. Just switch on we suit! Repairman speed away."

"Bighead go kill we!" Powi wailed again.

"Maybe," Nuna said bitterly. He tossed the suit Ari had activated at Powi and shoved another wet bundle into her arms. "But sure-sure Boss slack we, do we lose repairman."

How, so close on the heels of Nuna's threats, had she become the indispensable member of this suicidally reckless expedition? If she really were clever, she would be quitting the sphere, and Pelago, as fast as possible.

But she couldn't leave except on the *Hajo-aa*.

So clever, but not clever enough.

It took time to transfer the soldiers' link to the suits, time for Nuna to show Powi and Ari the barest minimum of the suit's functions, time for Nuna to explain to Shayeen what they were doing. Ari could not hear Shayeen's side of the conversation, but she gathered that Nuna's second took as dim a view of the venture as did she and Powi.

It was but a moment's work to make Pelago track for Powi the eight bigheads carrying ship's blood (all deep inside the sphere now). Ari, certain that Pelago must maintain a census of all the bigheads, wanted to learn how to track every individual, but Nuna had grown too impatient to allow it, and he ordered them to strip and don the suits.

He and Powi began pulling off their clothes where they stood. Ari ducked behind a cart, blinking against the light that scattered oddly from her suit's shiny fabric. It was really just a pressure suit, she told herself, one made for too much pressure rather than too little. Both circumstances could kill you, the one boiling toxic gases out of your blood, the other squeezing them in. But the fabric seemed so fragile. Could she rely on a suit thousands of years old? The soldiers seemed to think anything made by the Shkiinhe would keep working forever.

Until it broke and needed a repairman.

She bent to pull off her boots. Her mother had often drilled her and Temmek: twenty seconds to seal themselves into vacuum suits, donning headgear and air supply first of all. Temmek still hadn't been able to finish quickly enough to satisfy Maane. The awkward flippers and handfins, the slippery, spongy fabric, made this suit difficult to handle. Ari had to massage the fabric to stretch it over her mongrel frame, a hand and a half taller than her mother's.

She strapped on or plugged in the accessories that Nuna had distributed from the cabinets: guns that could fire gummy nets or sleep darts; and the fatal option, explosive harpoons to rip a bighead apart from inside. She had never carried a deadly weapon before, felt queasy just touching the harpoon packs. She had been raised to revere the wisdom of the Elders. Yes, the bigheads were hostile, hideous, and terrifying, but the Elders had judged them to be persons, not animals. The Elders had sent the bigheads here. Perhaps the Elders had saved them from stellar catastrophe, as they had once rescued dirt humanity.

When Nuna had distributed the weapons he had warned, "No forget you, repairman look like bighead now. No shoot you at *he* no matter what."

Powi said, "How go we catch repairman, then?"

"Net he, muckbrain. No would sleep dart work in puppet."

Ari pressed her chest seals closed, picked up the scooter and helmet Nuna had dispensed to her, and slapped on her fan-shaped footgear to the row of airlocks. While she waited for Nuna and Powi to finish dressing, she stared into the murk, blinking against rays of light scattering from the glass. On the far side schooled flecks of slime that she queasily decided must be alive.

*Blue ocean* was certainly a euphemism here. Her father had often told her about his boyhood on the blue earth of Polu, where rich and poor alike took water baths for pleasure and cleanliness. (It had always sounded like an ineffective substitute for powder.) People even swam in Polu's warm and creature-filled seas—a pastime he had always recalled with happiness.

Ari, however, had grown up far from any living world, and although like anyone else she occasionally spilled a drink on herself, she was no more used to splashing in biotic water than in a vat of spoiled food.

Pelago's suit would keep her clean . . . as long as nothing breached it.

*Calm yourself*, her mother reminded her. *Breathe*.

Nuna and Powi entered one of the locks and, with extreme reluctance, she followed them. The outer door sealed. Water gushed suddenly from three sides, forcing her to don her helmet in a hurry. As Nuna had warned, the face mask plastered itself against nose and mouth as if trying to suffocate her. *Breathe*. Yes, her lungs did pull air through the mask, although with noticeable effort.

Faint noises the shape of tiny resin spikes ticked at her ear, perhaps from the suit's audio link. Readouts appeared on her eyeplate: external temperature and pressure, the integrity of the seals, her blood-gas levels and body temperature. The lighted figures blurred, doubled; maybe the suit wasn't in perfect repair after all?

Water poured over her, and she closed her eyes to quell a surging fear of suffocation. The suit's readouts persisted in her vision, but only on the right side. Ari blinked, opened her right eye, shifted her gaze . . . the lights shifted with it.

They were in her own eye.

"Know I, *chiyela*, you can link direct to Pelago through you suit," Nuna said. "But no trick now, do you want go leave here."

Nuna's voice came from the suit's fabric, while the faint tick-tick sounded *inside* her ear.

Pelago had granted her even more intimate access than she had thought. Its endocytas had just required time to grow into colonies that her sense organs could perceive.

Ari's heart began to pound all over again. Shipsight from a wayfinder? She must have been born with almost the entire Shkiinhe genekey! And all of it activated. How that would have gratified her mother!

But Ari would never be able to tell her.

Ari wished she dared clear her eyeplate to eliminate the double image, but she did not want Nuna to wonder why she had done so. Instead she toggled her fingertip controls to voice one last objection. "Nuna-ba, dare we leave lock-side without guard?"

"No have I no other soldier do Pelago let inside, *chiyela*. Except Shayeen, and I need she on *Hajo-aa*. Must we depend on you clean meat."

Yes, her pure unmodified flesh, her purer-than-expected but still mongrel genes. Resources, her mother would have called them, but they were only such if Ari could figure out how to use them.

Clean meat: suddenly she realized what *chiyela* meant. Creole stripped grammatical inflections, or froze them instead, lexicon crumbling out of the patterned armature of grammar. *Chiyela* must be truncated from *chiilhe jun*, proper ritual cleanliness. *Chii*, purity; *lhe*, the instrumental clitic; *jun*, proper acts. Goody-goody, the soldiers were calling her. It seemed to have become her name, like "Boss" and "Repairman."

But in *i-shkiinhe*, the form *chiilhe* was, without its instrument, grammatically amputated, semantically incomplete. A question perhaps: goodness accomplished how, or, purity through what? Lacking context, you couldn't know even the kind of answer to search for.

\* \* \*

Pressurized water filled the lock. Ari thrust away panic. *Air in, air out.* The lock's outer door slid open. *Calm yourself.*

Nuna switched on his head lamp. Shoving his scooter ahead of him, he scissored his legs to propel him out of the lock and along the adjacent wall. Powi followed with such agility that he, too, must have swum before.

Ari waved her feet in clumsy imitation. She had half-expected that swimming would be like locomoting in microgravity without sticky floors, but water was dense and heavy, more like mud than air. *Dhi*, ocean: formless and yet not bodiless.

Right away she blundered into a cloud of slime-flecks. She flapped wildly at them but they schooled over and around her anyway, tiny bodies beating with an almost imperceptible flutter against her suit.

Ahead, the current pulled a slow river of bubbles from Nuna and Powi. The suits erased their strangeness, transforming them to plain human shapes hardly distinguishable from each other. She kicked harder to keep them in sight, telling herself the water was actually safer than vacuum. It was under pressure, full of dissolved oxygen, and relatively warm. In case of a breach she would be dead in tens of minutes rather than mere seconds.

Without warning Nuna turned on his scooter and sped off in a turmoil of green-lit bubbles. Powi followed his example. Ari switched on her own scooter and chased after them, fervently hoping she would not crash into anything large, disgusting, or dangerous. The burred triple rumble of the cavitating propellers, a complex rhythm of out-of-sync periods, tickled her ears like hoops of tangled wire.

Another difference from vacuum: water was thick with sound.

The airlocks vanished into the murk behind them, and up ahead Nuna and Powi were entering a forest of plants that resembled large upright banners. Ari slowed to navigate the maze. Bright diffractions rolled along those swaying, bluish, meter-wide blades, which were hairy with slime, rough with toothy encrustations. Light also glittered through more schooling flecks, turning tiny translucent organs to gems of red and gold.

Container of formlessness: Pelago's label was in no way accurate. There was too much form here, too much life, too much intensely convoluted topology in which danger could lie hidden.

Nuna and Powi disappeared. Then the rumble of their scooters cut out. Heart racing, she sped faster. On the far side of a banner-leaf, she spotted them: Powi's scooter had stalled in a clump of billowing strings. As soon as she came abreast of them, Nuna raced away.

Determined not to lose them a second time, she zoomed after, banking turns as sharply as she dared. The memory knifed up, cutting her to the bone, of the day scarcely two months ago when she had hijacked a pair of maintenance sleds, and she and Temmek had played war zipping through the struts of Boivo Station. How full of glee he had still been afterward—laughing, eyes shining—when she had pulled off his helmet and smoothed down the disordered spikes of his black hair. It had been worth the blistering lecture Maane had delivered when she found out.

Temme-cha would have loved these scooters, and this strange slimy world would have fascinated him, too. Her little brother had a native calm and happiness she had always envied. She had vowed when he was born, and she just twelve years old, that she would never let him learn the anxiety that had oppressed her since her earliest memories. She would stand between her brother and their mother's obsessions, and when or if the time came, she would stand between him and Maane's enemies, too.

Temmek never had been frightened, not when she was with him. But she had broken the other half of her promise. She hadn't been with him when danger threatened. She could tell herself he hadn't had time to be scared, that the sabotage Nuna



had arranged would have transmuted him to radiance the instant Maane's ship crossed the boundary of time. But her failure remained, and it would cling to her the rest of her life.

Which seemed unlikely to be long.

Nuna banked sharply downward along one of the banner-leaves, and she and Powi followed. A pimpled platter bigger than Nuna's head undulated past; jointed blue crawlers scampered away over . . . rocks? Pelago had supplied the banner-weeds a floor on which to anchor their knobby holdfasts. Beyond those, spine-furred gravel bordered a pool of darkness.

Nuna stopped his scooter to push at the darkness. He pounded at it, yelled for Powi to open it, changed his mind and summoned Ari. He watched closely as she drew the command *open this passageway* on her wrist link.

They waited. Ari brushed away the bubbles of exhalation that, lacking buoyancy, clustered on her face mask. After a minute, the floor softened so that Nuna could crawl into it. Wishing she could see what waited on the far side, Ari burrowed after him, into black mush. No, it was cold magma that would solidify and bury her forever, she could no longer breathe—but then her hand poked through the lower side. The passageway was less than a meter thick.

Here, Ari's suit informed her, pressure was greater, the temperature lower. The light Pelago supplied to this section of ocean was far dimmer. Nuna and Powi consulted the map. The bigheads—the ones Pelago tracked, anyway—remained many kilometers away. They turned on the scooters and burrowed onward.

Don't think, she told herself, about how far into this organic, viscid, cloudy mess they were traveling, about how limited their resources were. Don't obsess over what lurked beyond the range of their impotent headlamps. Breathe. Pay attention to the here-and-now.

Here, Ari decided, Nuna and Powi were her allies. And they couldn't afford to be delayed at each passageway as they had been on the way into Pelago. She toggled her fingertip controls so she could command Pelago without them hearing: "Open all passages for me, and for these two with me."

They burred down a cliff wall erupting in hairy pustules, crossed a sandy bottom where leathery lips gaped and pinched tight. "Warn me if any dangerous living thing approaches," she told Pelago.

That command ought to include the bigheads, but it might not apply to the repairman. Cold fingers pinched her spine, tension stitched her shoulders and knotted her gut. If only Nuna had given her a chance to prepare! She ought to be using Pelago's gift of shipsight to study the pelagikon, but she was afraid to clutter her vision more, to shift even a fraction of her attention from her surroundings.

*Use your advantage*, Maane chided her.

Her advantage was not just the access Pelago had granted her, but her current freedom from Nuna's surveillance.

At the moment, the most crucial unknown was not Pelago's Angel's name, but the location of the bigheads. "Show me the cephalosoma on your map," she said. But Pelago answered every variation of this command by marking only those few monsters with its blood in them.

She moved reluctantly to a new topic. "Show me how to talk to the cephalosoma." To this Pelago responded with a column of graphs, an array of choices. Ari quickly discovered that Nuna hadn't equipped her with the hardware to synthesize bighead sounds. Thinking that Pelago could at least translate their speech for her, she said, "Turn on *listen* and *watch*."

Into her new endocytic organs of hearing flooded a gurgling, rumbling, swishing, the shape of the water turned suddenly so rich and deep she could taste it in her

mouth, fold it in her palms. Her scooter paddled the water like knives smoothing butter; behind them, cavitation bubbles snapped like stones cracking, the slipstream edge whorled like fingerprints, rippled like silk.

Then a handful of palm-sized creatures resembling tiny bigheads jetted by. Pelago down-shifted their frequencies into human range: shrill bursts like flying microblades flashed out, hurled back. The returning blades kindled an image on her ship-sight that was as bold as if the creatures had splashed glowing paint into the murk: rocks, schools of wrigglers, a starburst of billowing tendrils.

A sudden urge possessed her to follow the creatures into the brilliant world their voices made, but then she collided with a crowd of sucking slime-globs. Nuna laughed while she flapped and scraped at her faceplate, gagging in disgust.

They rotered onward. Ari, now keeping a tense watch for both slime-globs and bigheads, found it hard to focus on choosing her next question. She settled on, "Show me the whole map of *dhi es nai*, the ocean inside."

The command *map* brought up the model of the pelagikon as Pelago had displayed it in the control room, sphere overlaid by a three-dimensional grid. With one eye on her surroundings, Ari expanded the model by orders of magnitude, thereby confirming her suspicion that the grid was not just conceptual. The sphere was chambered like pith. Compartment walls reinforcing the structure also contained layers of derma that regulated oxygen, pressure, temperature; arteries that pumped water and cytochines delivering minerals, nutrients, and messages; assembly nodes that waited to remodel or reabsorb the physical substrate as necessary. The pelagikon was not unbounded ocean in a bottle, but ocean permeated by a matrix, a maze always and everywhere inhabited by Pelago's controlling intelligence.

Pelago had to know the location of every bighead. But when Ari once again asked it to show more than the same eight monsters, her commands failed.

An outburst of scatology informed her that Nuna had reached another hardened passageway. Uneasy, Ari stopped her scooter beside him. It should have opened.

"Repairman muck they," Nuna said. "When I do here with Boss, they hardly more thick than gel. Hurry! Go open it, Chiyela!"

Gel membranes thickened to nearly solid walls? Alarm punched Ari in the chest. "But I already go open—" she began.

"Nuna-ba," Powi said, "Nuna-ba! Diver stop!"

"Chiyela, go *make* it move!" Nuna roared.

At that instant turbulence roiled the water behind her, a shadow winged out of the corner of her vision. She twisted her scooter downward. A hard current pulsed against her shoulder as the wing swept by, slick and flat as a plate—

—a spiked bludgeon of noise shattered her ears. Scraps of wing whirled outward.

Pelago had not identified the creature as dangerous.

"Sack of sloppy shit!" Nuna screamed at Powi—faintly, as Pelago had knocked down the volume to protect her hearing. "Do I say it, ass-smear? Do I say it so many time? *No shoot you!* Go knock it rock-hard shitplug out from you earhole and listen now, because next time, I slack you, I go, or you get we-all dead!"

"No do it bighead," Powi said sullenly, but with a tremor in his voice.

"No look you whether it do or no!" said Nuna. "Now tell Pelago, Chiyela, go it soft-en all-all they squeeze-hole for we *and* for it-diver."

Calming her racing pulse, Ari again drew the graphs on her wrist, again ordered Pelago in *i-naat* to open the passages. She also asked whether anyone, or anything, had countermanded her previous instructions.

Pelago told her no.

The passageway softened. The three of them crawled through and burred onward, across that compartment and the next ones beyond. Sometimes they traveled later-

ally, sometimes they headed downward, into ever colder, darker, denser habitats. Through the feeble cones of their head lamps passed slimy, spiny, tentacled creatures in shapes more grotesque than Ari could heretofore have imagined. Some flung blade-squeaks, some shone deep, slow rays of sound into the darkness that vibrated her bones, most rippled past in silence.

No matter what Ari told Pelago, she still had to open the passageways one by one, for them and for the approaching diver. Nuna grew ever more impatient and angry.

What was wrong? If neither the repairman nor the bigheads had overruled her commands, Pelago itself now had to be the source of the difficulty. Their venture must violate some higher-order domain in Pelago's mind—Boss' commands, for instance, or Pelago's own safety protocols.

Ari asked the question she should have broached right away. "Why have the passages hardened?"

And Pelago flashed graphs onto her shipsight: *disengagement underway*.

Ari's heartbeat leaped. "Show me *disengagement*. Show it on your self-map."

Pelago in its entirety appeared again, now overlaid with glowing lines in rainbow shades from bright red to deep purple. There were shockingly more such junctures than she had expected. Disengagement of the asteroid and refinery complex from the rest of Pelago, yes—obviously Pelago would throw those off as reaction mass if it started to move anywhere. But separation of the sphere from the control module, the engines from the sphere, sections of the sphere from each other, the sections themselves disintegrating into the individual compartments—

She expanded the map: in preparation for *disengagement*, the compartments had pulled apart and grown separate shells, hardening the once-permeable membranes that had divided them.

Was the repairman destroying the pelagikon just to slow their pursuit of him? Where would he hide then?

They rotered past thrashing knots of hair, past a pod of translucent spheres illuminated by radial spines of light.

Light inside; ocean inside.

She had been looking at it from the outside in. She needed to shift her view to the inside, to the repairman's perspective.

What would a repairman do who wanted to escape a boundlessly cruel employer, a really smart repairman almost as good as a shipwright, with all the materials at hand to build a working starship?

Boss would have inhibited Pelago *and* the repairman's drone body from undertaking such a task.

But Boss had not foreseen that the repairman could teach bigheads to work for him.

Still, the repairman would have used a good portion of his two years' marooning first to train his assistants, then to transfer himself to his puppet body.

No, no, of course! The repairman need only take his pieces of starship to a place where he could hide long enough to finish assembling them. A place the bigheads would also want to go. A place prepared for them long ago, which they perhaps knew of from legends passed down—

At that moment a strange deep note vibrated into her extravagantly enhanced hearing, as if someone had played the walls around them as a sounding board.

And then another note, even deeper, less heard than felt. Pelago did not translate either sound into her shipsight.

"Go you hear it?" she asked Nuna.

"Hear what?"

Then Ari noticed something else. They were at that moment stopped to open a pas-

sageway. The bubbles that had collected on Nuna's face mask were breaking loose to float away into darkness.

Panic spiked through Ari. "Nuna-ba," she said, "must repairman fire engine. Go look how they bubble move now."

Nuna turned to stare at the quickening stream. "Go stop it!" he yelled. "Why no kill you *all* he command beforetime? Do you want go get we dead?"

What she had wanted was to leave the repairman a chance of escape. Yes, she did also want to destroy Nuna and his soldiers, but not here, not down in this terrifying murk filthy with life and its excrements. She was afraid that, without Nuna, *she* would never leave it.

"No think I, could repairman take Pelago anywhere," she said.

"Where *do* he move it?"

"Most like, go he crash it into blue planet. Where else could he take it?"

Nuna swore viciously. Meanwhile Ari toggled her controls and told Pelago to stop disengagement, stop its engines, halt every process the repairman had set in motion, ignore all further commands from him, above all to open the membranes for them.

Nuna hurried them through that passage. When they emerged into the next compartment, he told them, "Diver do only two box away now. Must we grab diver and repairman quick-quick—"

A bolt of high-pitched sound flashed over them.

Behind it lurled a new rush of turbulence. A warning flashed on Ari's readout, but she already knew. "Bighead!" she shouted to Nuna and Powi. And to Pelago, "Close all passages!"

Her companions twisted, and into the wildly swinging illumination from their headlamps shot a bighead, tentacles streaming, flat reflective eyes glowing. Adrenaline raced into Ari's limbs until she could barely raise her shaking hand to fire.

But even as her net-pellet bloomed outward, the onrushing monster erupted in a spiked sphere of noise. Clouds of inky blood and severed tentacles blew in all directions, battering her—

When the ringing in her ears subsided, she could hear Nuna shouting at Powi, "Go I tell you, no slack you not one-one single bighead unless it attack!"

"It *go* attack!" Powi yelled back. "It aim straight at Chiyela! How do we escape it-tank of shit without she work diver for we?"

Ari's limbs trembled. *Control your body. Breathe.*

"Kill all you see now," Nuna said grimly. "Chiyela, go you tell Pelago close they passage?"

"Already," Ari said. She hoped that Pelago would comply now that she had stopped disengagement.

Silence fell. No more bigheads loomed out of the darkness. Scraps of hide and tentacles swirled past them, drifted away. To unclutter her vision, Ari blanked her ship-sight and all readouts on her eyepiece except the bighead warning.

The minutes stretched out. "Maybe it-bighead do only one in box with we," said Nuna. "But we stay beside wall until diver go reach we."

"Nuna-captain," Ari urged, "go we return to it-box we just leave, could we escape, swim back to entrance. After I close passage behind we, can only bighead with Pelago blood pass through, and all they still do deep inside."

"I want diver," Nuna said. "Then do we safe, and can we snatch repairman no matter what trick he play!"

If only Nuna hadn't rushed them into the water! If only she'd puzzled out how to track all the bigheads. If only she had equipped herself with the means to flood the compartment with her own lightning-flash of sound.

*Breathe.* Ari stared into the murk and listened hard. Nuna and Powi looped slow-

ly around. The burr of their scooters would conceal the sounds of approaching big-heads as surely as it would reveal their own position.

"Nuna-ba! Nuna-ba! They come though passage!" Powi yelled.

Ari glanced over her shoulder. A bighead popped out of the membrane they had just exited. Another was wriggling through. "Close all the passageways!" she ordered Pelago yet again, but without confidence it would obey.

Powi exploded the first bighead, Nuna harpooned the second one, but a third had already squeezed out. "Close it! Go close it!" Nuna yelled. "Shitsmear Chiyela, you tell I you close it!"

"No go it close!" Ari yelled back. The awful realization struck her that the membranes must never have been intended to work like gates, but had hardened for the disengagement process, and otherwise operated solely to manage the pelagikon's biota. And maybe *that* function—which would include tracking bigheads—belonged to an entirely separate domain of Pelago's mind.

She had no time to consider how to access it, because bigheads were still squeezing through the passage, and now a maimed bighead slipped past Nuna and Powi and jetted straight at her, eyes shining—

Ari raised her shaking arm and fired at it again and again. Each time, the scraps billowing through the water prematurely tangled the net.

Then it exploded into another cloud of ink and whirling chunks of flesh. "Go put away you shitsmear net and just *bust* they, Chiyela!" Nuna yelled. Then he said, "Powi go right. They do aim at you. They know how we need you. Now, come to I, lovey, stay close so can we guard you!"

Nuna and Powi needed her, and she needed them. In this battle, Powi was quick and capable, nearly Nuna's equal. She thought she was so clever, but all the training to which Maane had subjected her couldn't match the soldiers' augmented strength and reflexes, especially not in the water. And she had been conditioned from childhood against so much as touching deadly handarms. Nuna and Powi knew how to kill as easily as they breathed.

Maane would never have landed herself in this predicament. But she would have expected Ari to get out of it, one way or the other.

She loaded a harpoon and pointed her scooter toward Nuna. Then a swirl of turbulence stirred the water behind her, barely audible to her explosion-shocked hearing. As she twisted around to aim, a weight slammed into her, tentacles roped her, pain seared her leg as mouth plates clacked.

"I go come, Chiyela!" Powi shouted, swooping out of the murk, firing a harpoon that blew the bighead apart. The scissoring mouth tore away and into its place rushed bone-chilling water. Panicked, Ari tried to stick the suit back over itself with her free hand. A current of blood trailed her. "Nuna-ba! Chiyela go hurt!" Powi shouted, looping back toward her, but then his scooter hit bighead scraps and stalled.

Another ferocious rush of water boiled behind Ari. This time she jinked downward without glancing back.

The bighead struck Powi instead. She knew by his screams of agony. He must have fired a harpoon as well, because the bighead exploded behind her. When she circled around she saw that he had lost his scooter and most of his legs, and clouds of his blood poured into the water. Ari kicked her scooter after him, reaching for his arm.

"Chiyela, go leave he," Nuna shouted. "Come to I or go we all die!"

She had almost closed her awkward finned fingers around Powi's wrist when a harpoon slammed into his chest, yanking him away.

It detonated. For a few moments the water was so thick that she could see only his head with its lamp, tumbling end over end. "You killed him!" she screamed at Nuna.

"No go we never get he back alive—watch, watch, Chiyela, *go shoot!*"

The shape of the water bent behind her, the arch of a bow-wave pressing on her ears. She zigged and looped through the water, but another monster jetted out of the darkness, and then, as she banked steeply to slip round it, a third swept in to cast sticky tentacles around her. A weight seized her head and yanked her hard through the water.

She struggled in vain. She could hear detonating harpoons, Nuna yelling, but in her faceplate was only darkness. The bighead tugged her through a half-congealed membrane, and all the while terrible pressure on her skull grew as mouthplates scissored, clacking and grinding. She twisted and thrashed against the elastic tentacles, she tried to wrest her arm free to aim a harpoon over her head. But the grip was too strong.

*What are you doing, Ari?* her mother yelled. *Never use force against force!*

Ari awkwardly grabbed a tentacle and lunged in the direction it was pulling her, toward the bighead's mouth. At the same time she flipped her legs and body over her head and, her arm now pointing into the enormous head, fired her harpoon.

She heard Nuna call faintly, "Chiyela, where are you?"

Then a moon-sized blast of iron spikes exploded in her ears. The bighead blew away, its mouth still locked on her helmet. Chunks battered her chest. Icy, putrid liquid gushed over her eyes, mouth, nose. Spears of pressure lanced her ears. Through the scrap-filled water she glimpsed her lamp and face mask tumbling away into darkness. Her air, her light, her only link to Pelago—

Her air.

Powi's headgear—it was on the other side of the compartment wall, and the passage was lost in blackness.

She groped for her wrist link to signal Nuna, but the bighead's tentacles had stripped that from her, too.

She already desperately needed to take a breath. Should she try to swim after her own ruined mask, still spinning away, its light growing ever fainter? With her wounded leg, she'd never make it that far.

Scalding terror roared through her. She didn't want to die like *this*, on the wrong side of the boundary of time, never to return to radiance. Never to rejoin her family. Better to harpoon herself than die breathing bighead viscera.

*Stupid girl!* Maane yelled at her. *You will die if you don't calm down! Slow your respiration!*

Ari quit thrashing. With a ferocious effort of will she clamped down on her heart-beat and pulled her body to the very bottom of trance. Better to die calmly than in a panic.

She still needed oxygen, and soon.

*Calm yourself. Observe your environment.*

Utter blackness squeezed her. She'd banished her shipsight and had no means to get it back.

Now that the explosions had fallen silent, though, the ripples and gurgles in the water were resuming their former full, rich shape. She listened as hard as she could, heard only the slow beat of her pulse and a few soft rolling beads of sound as the slackening turbulence rubbed the last bubbles of air from her depressurizing suit.

The bubbles rolled up something—a torn patch of fabric—to tickle her chin. No, the patch was *crawling* onto her skin. Some slimy parasite of the deep—

*Calm yourself!* She made herself reach for the thing with the drifting movements of deep trance and touched a gel-like surface. When she tried to rip it off, she discovered that a short umbilical attached it to her suit.

An emergency breather? Her finned gauntlets were so clumsy. She poked at her cheeks, her eyes, before she managed to mash the thing against her face again.

The gel crawled into her nose and mouth, thrust against the back of her throat. She tried to inhale, choked, gagged, nearly vomited. All her airways were stoppered, no air, no air, she was suffocating—

She snorted and sucked as hard as she could, and air began to fill her lungs.

For a few moments, dizzy with relief and hypoxia, fighting not to gag, she hauled in one heaving breath after another.

Now what? She couldn't just drift blind, waiting for bigheads to find her. But she had lost faceplate, shipsight, wrist link. At her command, Pelago had stopped the engines firing; that clue to directionality was gone as well.

If Nuna was still alive, he would help. But he had no way to find her.

Don't panic. Breathe. Stay still, so the bigheads will have a harder time hearing you.

It was so hard to think clearly.

She had lost her scooter, too, and her leg was injured. She still had: arms, body, one fully functioning leg. Her hearing. Her suit kept her body fairly warm—even her wounded leg, which meant the suit had repaired the rips. But heat spilled from her head into the frigid water. That, and her wound, would overcome her eventually. Were doing so already.

There must be a way to locate herself. But her thoughts were so foggy. Maybe big-head venom had poisoned her, or some constituent of the ocean itself.

All she could think of was to swim in one direction until she found a wall or floor. She began to burrow through the cold, foul blackness, gritting her teeth against the fierce pain in her thigh. The nearest wall might be hundreds of meters away or ten. She could hear only the intricately whorled swish of her own movements, the rasp of air in her throat. But none of the compartments were empty. Some monster must be out there. It would be watching, drifting silently, stalking her . . .

Ari stopped swimming. She would never see the stars again.

A familiar voice said, "Ari, come on!"

It was Temmek bright as day, bouncing away from her, unburdened by weight or water. She tried to call his name, but the gel blocked her throat.

He couldn't hear, anyway, because he wore no helmet.

He was going to die again, right in front of her. Sick with terror, she swam after him as fast as she could, ignoring the pain, and grabbed his bare hand, and then she yanked the gel from her throat by its umbilical. "Take it!" she tried to shout. Her words emerged as a mumble. "We'll share! Temm-cha, we'll share, stay with me, we'll get out of this together!" Though she would have given him all her air.

He slipped his hand free and, grinning happily, bounded on. She redoubled her efforts. Temmek had grown so much—he reached to her shoulder now—and he didn't have to swim the way she did. He was easily outdistancing her.

"Ari, what are you doing!" Maane yelled, solidly blocking Ari's path.

Ari knew Maane would have wanted both her children to survive. "I need to help Temm-cha," she tried to say, but the pain of swimming overwhelmed her, foul water choked her.

Temmek had reached their father, who glanced over his shoulder and waved smiling at Ari. She wanted to call to them, "Come back, wait for me, don't go!" But she had no air left.

"Your job is to survive!" Maane yelled, "Breathe!"

"Mama," Ari mumbled, choking on water. It wasn't fair that now of all times she couldn't argue. She jammed the gel back in her throat.

But Maane had vanished.

They were all gone.

Just herself and the crushing blindness, the tiny opulent gurgles in her ears. They had left her behind. Again.



Ari breathed, though it was hard to see why she should when she had been so utterly abandoned. After a while she remembered that—stupid!—the breach in her suit had not brought depressurization, but a jump in pressure. Her murdered family had not visited her. Only a bit of blood-gas poisoning.

She drifted in her cold tomb, hoping and fearing she would hallucinate again. Nothing came but more darkness, more crawling terror of what might lie inside it, more unbearable loneliness.

Then a burst of distant blade-squeaks stabbed at her ears. Tiny echoes ricocheted a half-instant after.

The little cousins. Without shipsight, her clumsy senses could not read the topology illuminated by those echoes. Still, all that mattered was the direction of the shape throwing back sound.

Another burst of flying microblades.

Wearily Ari pulled herself toward their echoes. Eventually—much too far but perhaps only a dozen meters—the ambient noise of the water became flat and hard, and even without the knife-squeaks she could hear the shape of a wall approaching. She put out her hand . . . and there it was, a large, sloping face of the pelagikon's substrate.

She clung to it. Her breath shushed in and out, her pulse pounded in her skull.

Suddenly she realized she should still be able to talk to Pelago, because she had Pelago's endocytic organs *inside her ears*. Pelago ought to hear her through her bones.

She pulled out her breather and, enunciating as clearly as she could, first into the water, and then with her mouth closed, she ordered, "Restore my shipsight." On the fourth try the map returned to her eye. With herself on the map.

Hope seeped into her. But where could she go from here?

Forget the diver Nuna had been heading for; bigheads would be waiting in ambush. Another diver, then. No, they would guess she had called it, would use it to find her. She told Pelago to send each diver in a different direction, bringing only one to her. At least that would divide the monsters.

Next problem: Nuna. Pelago showed his icon to be several levels above her. He must have abandoned his plan and headed straight for the surface. She ordered Pelago—so hard to speak clearly—not to allow him to contact the *Hajo-aa*, or depart the sphere, until she reached him.

She wanted much more information. But she had to move before the cold incapacitated her. Unable to crush her terror of the blind dark, she launched herself into it anyway, and with aching slowness she began to crawl toward the far wall.

The cuts on her thigh throbbed hot and cold. Her arms burned with exhaustion, her body grew heavy as lead. Once her hand-fin struck a bundle of sticky fibers. Once cylindrical shapes buffeted her. She kicked and flapped, and they went away—she hoped. Occasional bursts by the little cousins echoed from another wall like tiny spotlights flicking on and off, reassuring her that the darkness was finite.

At last she reached the opposite membrane, at last the diver entered the adjoining compartment. Shivering spasmodically now, she checked her armaments and with the dregs of her strength hauled herself through the tunnel of gelatin.

Into her ears whirled the low, burred thrum of propellers. The oncoming diver's lights glowed through the murk: no bigheads visible. Relief surged in her.

The propellers reversed; the diver drifted to her. Its hatch opened and Ari crawled into the airlock, to safety, at last.

But the inner lock door stood open. And murky water flooded the cabin inside. The interior lighting showed worms wriggling above the control panels.

Stupid, stupid, stupid! *Of course* the repairman would give divers to the bigheads! What a lovely return for their services—

Black tentacles uncoiled in the shadows. Ari turned toward them, fumbling. No, a harpoon might damage the diver. No room for nets to open—

She fired an indiscriminate hail of sleep darts. The huge shapes kept coming, tentacles writhing, mouth plates scissoring. She had no strength to do more than shield her bare head with her arms as they smacked past her to crash against the cabin walls . . . with suddenly flaccid bodies.

She knew she did not possess the strength to clear them from the diver. Instead, limbs shaking, adrenaline pounding, Ari started to crawl toward the diver's controls. A new swish of water made her glance back. Tentacles writhed. A bighead jetted toward her, bristling with sleep darts—

Oh, you stupidest girl!

She had never asked Pelago to put the repairman on her version of the map.

She loaded a harpoon to aim at him and ripped out her breather. "Close this airlock," she commanded Pelago. "Take the diver to the surface."

The repairman's tentacles thrashed but, as the propellers thrummed to life again, fell slack. They faced each other. Not that the radial symmetry of a bighead allowed it a face.

That thing was a true monster, neither alien nor machine. The reflective disks, huge and inscrutable, only mimicked living eyes. The puppet's true sensing instruments might be somewhere else entirely.

But Boss had left the repairman *feel* and *want*.

Ari knew, suddenly, what the repairman felt: despair, the night-side of desire. She had locked Pelago against him. Even if he killed her, he couldn't regain control on his own, not in that form.

He had labored so hard, he had risked so much to escape his tormentors. The extremes to which desire had driven him showed how human he still was.

Ari instructed Pelago to return the repairman's agency as soon as she safely departed. Then she asked after a replacement for her missing headpiece. As she hoped, the diver contained a locker-full. She knew the repairman was monitoring her commands and understood her intentions, because he moved aside to let her wriggle through the tangle of unconscious bigheads.

She sealed her new helmet and waited, impatient, unable to think anything but *up*, *out*. When her map showed that the diver had reached the level below Nuna, with only one passage remaining to traverse, she stopped it and crawled out the airlock.

The repairman floated in the lock to watch her leave. A voice spoke in her ear, bodiless and uninflected. "Why are you helping me?"

"I wish *I* could get free of them," she told him.

"You'd better figure out how, soon," he said, "before they discover that you let me go." And he vanished back into the diver.

He was right. Maybe she should flee with him to the refuge he had planned.

But even if she lived through the disintegration of the sphere, she would be cast-away on a pelagic world with no food and no preparations, perhaps no more equipment than her damaged suit. How could she survive in the depths of a world-ocean?

It was still possible she could escape outward, into the song of Angels.

She squeezed through the membrane into the topmost level of the pelagikon and swam painfully, laboriously, the last few yards through a maze of banner-weeds. This compartment was drowned in darkness except for the roving rays of Nuna's headlamp.

"Oh, Chiyela," he said with genuine relief, when his light fell on her.

### *Song of Angels*

"I think you do dead," Nuna said.

"So I too," Ari said. "But I get away and crawl up here—"

He interrupted. "Chiyela, help I! Pelago block I from go talk to *Hajo-aa*."

She would much rather have explained her escape here than on the *Hajo-aa*, where he would know when she deviated from the truth. But she gave him back access to his ship, and then, drifting in exhaustion, closed her eyes to listen to his agitated exchange with Shayeen.

Shayeen said, "Nuna-ba, must you hurry out quick-quick. Pelago go smack air in just five minute!"

"Five minute?" Nuna roared. "Chiyela, stop Pelago! Get we into orbit again!"

"No have you time. Save yourself!" Shayeen said.

"And leave repairman? Forget all it-cargo Boss send we for?"

"We load they crate," Shayeen said. "And *Chresun* shipbrain. They freelancer do still onboard *Chresun*, but it go shitsmack when Pelago hit planetside."

"But repairman and Pelago doorbox do most-most important!"

"Do repairman tricky enough go survive, then do he stuck planetside till we fetch he. Now tell I quick, Nuna-ba, how we niggle you through Pelago hull."

"Lock tube, of course," he said impatiently.

"You tell *Hajo-aa* go eat it, for do make space," Shayeen said, "back before Toomee. And same for we flyer and lifeboat. No have we time for *Hajo-aa* grow new one."

Nuna began to swear. Ari opened her eyes, cold terror jolting her once more. What leech-induced recklessness had led him to rid his ship of its most basic safety equipment? To *make space*?

"Shit-fill ship," he said, gripping his head with both hands. "Tank of runny shit-drip."

"Do any boat, tube, inside at you?" Shayeen asked.

"Chiyela! Do it?"

"Not here," Ari said. Pelago could doubtless manufacture such a thing, or Nuna's soldiers could ferry over vacuum suits, but not in the time remaining. That left only one choice, a very imperfect one. "Must we blow hole and jump."

"Do Pelago fill you skull with muck?" Nuna yelled. "No wear we nothing but we watersuit and we barenaked ass!"

"Watersuit do keep pressure, heat," Ari said.

"No last they in vacuum."

"Go Shayeen bring *Hajo-aa* close enough, do we outside less than one second. And you leg do so meatshape-strong. Go you jump hard, you spring right into *Hajo-aa*."

And surely Nuna could make that jump. She, with her wounded leg, with her damaged suit, might not be able to follow.

Shayeen said, "Nuna-ba, Chiyela do right. It do only way."

"Sure-sure," Nuna said at last, angrily. But then he surprised Ari by telling her, "Must you grab onto I, Chiyela. You leg do mess. Better we jump together."

So that was how they did it. Nuna boosted Ari up to the underside of the hull. Meanwhile Shayeen brought the *Hajo-aa* alongside, matching Pelago's speed and course, and Ari (with a whispered explanation to Pelago) fired harpoons to breach the pelagikon's outer hull.

Water gushed past them, at first no colder than it had been, but tugging hard enough that in her weariness she could no longer hold on. Nuna steadied her as she wrapped arms and legs around him, forcing herself not to think about whom she was embracing so closely. A too-long moment stretched out while he worked his way into position at the opening, and she exhaled hard to protect her lungs from the trauma of depressurization. Ice crackled on the hardening skin of their suits. Ari could not see the *Hajo-aa*, which hung above and behind her; she had to trust Nuna's aim.

He jumped.

They flew through the outrushing flood, battered by clumps of ice. For a fraction

of an instant, over Nuna's shoulder, she glimpsed the pelagikon's curving gray hull. The blue world beyond was all ocean and clouds now, its limb hidden from view.

Then they shot into the *Hajo-aa*'s airlock, the *Hajo-aa* slapped a net over them, and the outer lock gate slammed shut.

The impact crunched Nuna against her wound. Ari's nerves belatedly brought her news of knife-edged cold. But the lock sucked away the water, jets of heated air blasted at them, and already she could draw breath. The *Hajo-aa* accelerated slowly away, flattening the two of them to the floor.

Nuna flung off the restraints in a shower of ice. "Shayeen!" he yelled into a ship's ear. "Go make picture for I! Pelago eat I shipsight, and longtime do we stuck here while *Hajo-aa* scour we of water-muck."

The inner gate opened. Ari crawled after Nuna into the more spacious portal antechamber, where she sagged against the wall, stripping off her headgear. Immense relief was bubbling up, exploding into exhausted giddiness: heat, air, a ship; she had found her way out. She would not be buried forever.

Even her decompression pains were hardly noticeable. The *Hajo-aa* must be packing the room with pure oxygen for them.

Or rather: for Nuna. *She* was once more a foreign and disregarded object.

Nuna stripped off his cracking suit and began to towel water from his face, shoulders, back. His long hair fell from its knot. She could not see where his plugins attached.

The sight of him struck her like a blow. Naked, he had lost the anonymity of his watersuit. The force of it wasn't just in the perfect shape of his flesh, math of muscle over bone, of pulse beating under glitter-dust skin. It was all of Nuna—wincingly coarse, dangerously tight-wound, carelessly violent, mocking, clever, cruel as glass.

"Go come, lovey, let I patch you," he said, extracting rolls of tape from a cupboard. He came toward her, smiling.

Ari struggled to her feet.

She understood the moment precisely. Their mission had ended in disaster, but she had proved herself. He was offering a reward. An initiation into his company of soldiers.

A terrible, rage-filled arousal flashed over her, scorching all discretion to cinders, accelerating her toward a catastrophic impact. Fuck Nuna? Oh yes, *how* she wanted to touch him—with her fist, with his knife, with the harpoons she still carried. She knew how to kill now. She would blast him to bloody shards of bone. She would purge her family's murderer from the face of time.

Such a consummation would be worth her own death. Oh, how it would be worth it!

And she *would* die, too, on a ship full of his soldiers where she had no agency.

She didn't care, not any more. But—

Neither Nuna nor Boss were the ones who had conceived of her family's destruction. They had merely been the weapon wielded by Maane's Shkiinhe enemies, who had been searching for her since before Ari was born.

Trading her life for Nuna's death would only transform their so-far failed project, the erasure of Maane's geneline, into a complete success.

If vengeance was her object, Nuna was only the start. And no matter what she did, she was too late to follow her family.

Her job was, somehow, to live.

If there was one thing Ari's mother had succeeded in teaching her, it was control—of breath, body, blood. "I do it," she growled in her most sullen and childish voice, and she snatched the tape from Nuna.

He just watched, still smiling, as she stripped off her suit defiantly—let him look!—and wiped the fresh blood from the gashes in her thigh. His attention skipped

to the wall as soon as Shayeen began relaying views of Pelago to him. But after Ari finished smoothing strips of heal-all over her wounds, he did hand her a set of red and blue clothes from his cupboard, garish as blow, silken as a caress, that smelled of his perfume. She understood that gesture, too, but she put them on anyway, until she could find something else to wear.

They had to wait while the *Hajo-aa* undertook their purification. Nuna still did not ask what had happened in the pelagikon. He was preoccupied by the images sent back by the ship's drones. Pelago had begun to turn ponderously for deceleration as soon as they jumped from its surface, and now it roared down through the outer atmosphere of the ocean planet on an immense cloud of fire. Flames poured off the sphere's hull as well. Ari wondered if her action, halting the disengagement process at a crucial moment, had doomed the repairman anyway, along with the Elders' age-old effort to rescue the life of an endangered world. Was her individual life worth that?

Then the ablating sphere began to disintegrate along its trailing surface. Flaming sheets of hull flew off. Little pods crumbled behind it like a smoke plume in the wind—the pelagikon's compartments, surely, each of them bigger than a seedship.

"Go look how slow they pip of fart poo fall!" Nuna said bitterly. "Must every one have it own motive power. And most like, go repairman harden everything he need for crash."

Ari sat a little straighter. Nuna was right. The attenuating plume drifted downward like a rain of feathers.

Pelago's builders had designed the sphere well. Maybe some compartments would strike too hard, but most would survive the impact, would sink into the ocean and seek the proper depth and pressure to release their cargo. The repairman, the big-heads, and the other slimy, hideous inhabitants of the pelagikon would swim out safely into their new world.

As the plume stretched out ever further, other pieces of Pelago fell in tumbling white trails of smoke and flame: fragments of the dockside with the *Chresun*; the four vast engines, one after the other; the control module last of all. The first of the compartments shattered the ocean into great bursts of water and steam. Thickening haze obscured the horizon.

"Shit go rain on I now, Chiyela," Nuna said, his gaze still fixed on the wall. "Boss cause it, but still he go say it-mess do I fault." He rocked his boot heels up and down, scritch-scratch. "So tell I, how go I find repairman on whole planetfull of mucky ocean fifteen kilometer deep?"

"One million drone," Ari said, "and go each drone send out ten trillion cytochine. One-two year, maybe, for they search."

"No do we have ten drone, nor no way go make more. Must we come back for it, do Boss let we live so long." The knife-edge glinted once more in his voice. "Repairman take Pelago shipbrain into ocean, and so much hull-glass, and maybe do he now have *Chresun* shipbody too. But no own he not one-one single door. He trap here with no way out. We or Boss go find he, sooner or later."

But doors, Ari thought, were exactly what the repairman did own. Inside Pelago's drowned shipmind were all the doors in heaven.

If he worked fast enough, he was free.

While she was back on the *Hajo-aa*, doomed as soon as Nuna asked her the right question.

Could she have survived in that world-ocean? It was too late to change her mind.

Since Nuna's suit hadn't ruptured, he had suffered far less contamination than

Ari, and the *Hajo-aa* soon released him into its body. With his departure, the images on the wall blanked.

Eventually the *Hajo-aa* allowed her to limp out as well. On the way to her allotted sleeping shelf, the ship's alarm shrilled and its acceleration cut out. She stuck Nuna's boots firmly to the floor and, while the *Hajo-aa* swung to a new course, clutched straps nearly swallowed in wall-moss. Then acceleration swelled with a vengeance as the *Hajo-aa* tore away from the ocean planet. Nuna, always in a hurry.

Ari hauled the leaden weight of her body onward. In the narrow aisle that ran along the outer bank of sleeping shelves, she found soldiers and ship drones shoving rectangles of mossy partition this way and that. Of course the acceleration did not bother them.

"What do it?" she protested.

To her surprise, a soldier answered her, a woman with a spiked metallic carapace. "Nuna fill ship with so much trashpick, no room do left for he own soldier."

They let Ari through to the already remodeled section where her shelf was located. She climbed up and slid the cover shut behind her. Her meager belongings, still strapped in place, did not appear to have been disturbed, but the shelf itself had been shortened so that she could no longer stretch out her legs. They had also lowered the ceiling. Lying down, it wasn't hard to pull off Nuna's loose trousers, but worming into her own closer-fitting clothes was a painful job.

Walls and ceiling pressed on her. She netted herself in and closed her eyes, longing to lose herself in sleep. Her mind jumped: Nuna; her terror in the pelagikon's filthy depths; Temmek swimming away into darkness forever.

Then the partition on the left side of her shelf rattled. A drone claw stabbed through it and yanked away that wall in a shower of moss, exposing her to the next aisle.

Ari slid down past the drone, which recognized her presence no more than did the *Hajo-aa*. As she limped away from the construction zone, a rubbish cart overtook her, heaped with clothing and on top of it, Powi's discarded snake-arms.

She trudged to the control room. Powi's station sat empty, while Ekka occupied Shayeen's spot and, to her dismay, Nuna slouched, silent and brooding, in his once-human chair. A single active section of wall showed the blue planet against the smudgy blackness of the Rift.

Sorry she had come, not knowing where else to go, Ari edged past Nuna and sank down at the door station. With him and his chair in it, the tiny room felt unbearably crowded, but even so, she had almost toppled over the edge of sleep when he spoke. "You want go live here, Chiyela, just like I chair?"

Her eyelids jerked apart. She said, sullenly, "They busy too much at I shelf."

"Many other shelf do on shipboard," said Nuna. "Must you shape some happy toy into you meat, Chiyela, then go you like skinplay better. No do plain meat have much-much feel in it."

Was that truly what he believed? Ari did not know how she could bear more feel than her flesh already had.

With an abrupt change of tone, Nuna addressed Ekka. "Why laze you about, shit-rock? Long-longtime go pass before we reach door-open. Go help *Hajo-aa* move itself around."

"Where go door take we, Nuna-ba?" Ekka ventured, as she rose.

"Where Boss send we, muck-puddle."

Ekka departed. Ari braced herself for further discussion of her need for neural augmentation, that stigmata of soldierhood, or worse, an interrogation into exactly what had happened in the depths of the pelagikon. But Nuna returned to his brood-

ing and, annoyingly, her tide of sleep receded. A new-old worry began to twist her stomach like a rope.

The door, the door, the door.

Poor Nuna, clever, beautiful, and strong, but no matter how many years the master of a starship he was still not his own master. He could travel only by means of the doors Boss gave him, only to where those doors opened.

But something kept going wrong with them.

And whatever the cause of that problem, Nuna would have exacerbated it by loading the *Hajo-aa* with the *Chresun*'s heavy chunk of crystal shipbrain. Boss had planned the door for Pelago's etheric wayfinder mind.

A bad door might do worse than spit you out in an insalubrious location; it might not spit you out at all.

Ari half-turned to point out to Nuna the catastrophe he risked with their extra cargo. Then she stopped, remembering:

Nuna in Pelago's control room, afire to locate Pelago's nonexistent doorbox.

Nuna's soldiers, complaining even *before* they loaded the hull glass at Pelago that the *Hajo-aa* was crammed too full. Nuna ordering the *Hajo-aa* to consume its lock tube and lifeboat to save space. Nuna, vanishing into the *Hajo-aa*'s depths to tend to his "cargo" as soon as they had boarded at Toomee.

Doors that kept going bad. New doors, created afresh by Boss's wayfinder for each of Nuna's journeys.

Suppose the *Chresun*'s doorbox wasn't the first one. Suppose Nuna collected them whenever he could cripple a seedship and rip out its memory. By stockpiling doorboxes, and thereby the doors they carried, he could gain his freedom.

A clever plan, except that it required he hide the extra mass from the wayfinder that generated his own ship's doors.

"Nuna-ba," Ari said, "how much do *Hajo-aa* haul cargo that no do Boss know about?"

Nuna focused his gaze upon her. "Now, go you tell I, Chiyela, how much do it any of you business what I talk about with he?"

"I talk about you door, Nuna-ba," Ari said, shifting her gaze to the floor with what she hoped was the proper display of deference. "*Hajo-aa* door turn bad beforetime. Maybe go next door all-all shitsmack. You haul *Chresun* doorbox, and no go Boss map it into you door. Seed-grown crystal do so much dense and massy."

"Must I haul it to Boss," Nuna said, "so can he find where they trashpicker buy door to Pelago."

"Think I, already *Hajo-aa* carry mass that no do Boss map, and already it-cargo mess you door."

Nuna regarded her. Finally he said, "You know so much, Chiyela, maybe you child up in Skeenhay shipyard. But no do they shipwright school you. No matter it how much cargo you ship haul."

It seemed impossible to underestimate their ignorance. Just because Nuna was master of a starship, just because he and his soldiers could press a few keys with pictures on them, did not mean they understood how their ship worked.

"Mass," said Ari, "knot up spacetime, and truespace, too. When Boss make you door, he write in it—" She groped after creole. "Must he write *Hajo-aa* shape all through, how much *Hajo-aa* have mass and where. Go you give Boss wrong mass you carry, and wrong shape of it, he make bad door for you."

Nuna kept frowning at her. "Alltime, freelancer buy-sell door."

"Alltime, they door turn bad," said Ari. "Alltime, shape of Riftside change, and then no do old door match no longer. Can Riftside folk only trade each-other door at all because each seedship do so much like next one, and Riftside space do some bit flat."

She groped after an analogy. "When ship come back through door into spacetime,



do it like person drop heavy rock into bag. Must rock squeeze itself into bag-surface, turn itself into flat speck on bag, like. But ship-door do slot made for one-one single shape rock. Do door-shape too different, maybe no open hole for ship into right place on bag. Or no open it at all, no can ship make itself flat again. Go it rip hole through bag, and rip itself apart, too."

Now a smile crooked Nuna's mouth, a most appealing expression. It had probably been designed by a meatshaper to seduce.

"Can you fix I door, lovey?" he asked. "Because no do Boss like it, go I throw away *Chresun* shipbrain."

"I can fix it," Ari said, "can I handle door math."

A silence stretched out. She kept her gaze on the floor, and her heartbeat and her thoughts firmly under control. At last Nuna said, "Go come with I then, lovey."

He took her hullward to the ship's portal once again. There he decanted for her a sip-sucker of ship's-blood, which he or a previous captain had caused to be a gold-flecked, luminescent white. The blood tasted as bitter as wine and was no thicker. You could not feel a seedship's endocytes swarming into your blood, and these cytochines were after all no different in essence from the blood she had received from Pelago or, too early in her childhood to remember, from her mother's ship. The drink nevertheless made her skin crawl. The *Hajo-aa* was the instrument of Nuna's will, and now its body was truly inside her flesh, now it had fully incorporated her flesh into its body.

This intimacy, though, could serve a good purpose.

"Now go you work for I, Chiyela," said Nuna. "Show I how you fix I door."

"Sure, Nuna-ba," she said, and she limped after him back to the control room.

She sat again at the door station. Now the console responded to her touch, allowing her to rebuild its shape. While Nuna watched, stroking the restless hands of his chair, she wiped away the pictographs and in their place raised a rainbow city.

In one corner she pushed up a golden-domed temple where she would store the topology of the anchoring Angel's demesne. In another, she built a blue dome to house the still-unknown demesne that was their destination. Around each temple she molded lower edifices—turrets, spheres, and polyhedrons of all colors—and roads and bridges to link them. Here she would chart the perturbations from surrounding stars and dust clouds, their radiance and etheric energy, and the twists and turns of dozens of other dimensions of truespace; the door was also the route between its entrance and exit.

Amongst these she kneaded into existence a hall—striped orange and lurid pink for Nuna—where she would store the inner and outer shape of the *Hajo-aa*.

When she finished that, she asked the ship to etch the first block of door math in the sky above her still-empty city. In this looming stela of ideographs she found the relational markers indicating the nearer Angel, and she began parceling out the chunks of graphs that described cislocative space, chivvying them into her golden temple.

Nuna watched through half-hooded eyes. He was doubtless tracking her actions in shipsight, because when Ari asked the *Hajo-aa* for its self-map, he said, "Go tell I, lovey, what you do now."

She explained how she had made the city to help her order the constituents of the door. What she had asked for, she told him, was the ship's mathematical description of its current densities and etheric potentials, which this image—she threw it onto the wall—which this image represented visually.

The display showed tiny blue shapes of people drifting through the narrow corridors and cramped chambers of the ship. "They look ghost," Nuna said, leaning forward.

The image also showed the crates of hull glass from Pelago, and several dense black clots of crystal. Some of those would be the *Hajo-aa*'s own mind-stuff; Ari counted two or maybe three other chunks of shipbrain.

With the *Hajo-aa*'s blood in her, fixing Nuna's door was a matter of substituting a few handfuls of graphs. She showed him what she was doing. "It all finish. I tell you, I can run you door station."

"Sure, lovey," Nuna said, favoring her with his most mocking, seductive smile. "I think you can."

Now, however, Ari had something more compelling than Nuna to command her attention: the graphs above her city that spelled the *Hajo-aa*'s destination.

She had expected that it would lie, as Pelago's Angel did, in fields of heaven beyond her knowledge. That just to translate its math to the map of ordinary spacetime would require days or weeks of labor.

But she at once recognized the name. The word-values of the first ideographs were *kan*, boot; *dne*, velvet; *gan*, waiting to be filled: Kandnegan, an Angel whose full name her mother had taught her, an Angel dancing on the margins of Iigmrien itself.

Ari scooped its math into her blue-domed temple and then consulted the ship. Local conditions would not converge on those of the door for days. Even in that time, even if the *Hajo-aa* were not tracking her every action for Nuna, she could not construct a new door opening from this unfamiliar demesne.

From Kandnegan, though, she could build a door to any star in Iigmrien.

When the first light-tracks of shipsight began to crawl across her vision, when the first murmurs of shipvoice hummed and ticked in her ear, Ari folded away her city to teach the *Hajo-aa* music.

The Elders, who had meddled gently if implacably with the human genome to create the People of Heaven, had not, according to Ari's mother, enhanced their abilities to comprehend the immensely complex topologies of truespace. The Elders had not wanted their servants to steal the secrets of travel beyond the edge of time.

But, Maane had also said, the earthbound past of the People had already provided them with the means to track myriad other dimensions: color, texture, shape, smell, taste, hot and cold, the trajectory and rhythm of movement, all the qualities of sound. Through these, the realm beyond the senses could be rendered as a place in which the senses were at home.

After all, human perceptions of ordinary spacetime—of the solidity of matter, for example, or the wholeness of mind—were themselves no more than display tools through which consciousness could grasp the universe, and itself.

Ari began to teach the *Hajo-aa* correspondences between the cardinal dimensions of truespace and qualities of sound: pitch, duration, tempo, volume, harmony, modality. Even an untrained ear could extract a world of information from a single word spoken by a loved one, as witness all the ways she had heard her mother speak her name. And Ari's ear was not untrained; from childhood her mother had taught her to chart the shape of heaven through music. To this project Ari brought her native synaesthesia, which added a palpable texture and topology to every sound. Every tone was a warty shell, a spill of silk, a needled brush you could hold in your palm or feel in your mouth. Every phrase of music sculpted a vista or held, beneath its skin, a chambered labyrinth.

"What go you do?" Nuna demanded.

"I just teach Ship how should it show I math," she answered, and he did not pursue it, perhaps because the *Hajo-aa* assured him that she altered only the way it represented information, and not the information itself.

Nuna might have left and returned. Days might have passed. From time to time, Ari napped, or sucked food paste from a packet. At last the *Hajo-aa* was ready to play the song of Kandnegan-Angel. The first hollow, sliding notes of creation lofted inside her ears, harmonies of unbearable purity, the lullaby her mother had sung in her earliest memories.

The blue planet shrank. All around it shone the stars of the Riftside, the light and dust of Kaenub's nebulae, and in her ears, inside her skin, burgeoning mansions of radiance.

It was the curse of the body that desire turned so easily to its night-side, despair. How quickly flesh and bone could learn that topology, which felt like an emptiness beyond anything found in heaven. Despair was in fact intolerably full, a realm of crushing darkness and razor-limbed monsters, with no blue ocean into which they could be released.

Still, imprisonment in the body meant that you always had the music, too. You always could climb out of darkness and draw up your consciousness with you like a ladder, into the incorruptible realm. There you could purify your desires—for freedom, for bloody revenge—and plan your timing with impeccable dispassion.

Nuna was speaking from the other side of the universe. "Do you know so much, but never should you forget, Chiyela, I do master of *Hajo-aa*, and I know everything you work at. Go you play tricky, I make you into slave—maybe trash hole, maybe toilet. And I leave you do feel all and know all, like I chair."

"Sure-sure, Nuna-ba," Ari said. But she thought, I control your doors now.

I can take you anywhere I want.

And she walked away from him across the fields of heaven, where she was master. ○

## REGULAR RIDERS

The ticket seller at the merry-go-round  
Couldn't help noticing the tall, plump woman,  
All in black bombazine  
In line every day for a ticket.  
Well, why not—it wasn't  
Just an amusement kids liked—  
Adults rode it, too.

Only she never saw her ride it.  
And even on the inmost circle  
Of leaping wooden beasts,  
That tall and stout and stern,  
She should have been visible  
Speeding nowhere in time  
To the pumping calliope,  
But somehow she never was there.

Sometimes the ticket taker  
Thought she might have throned herself  
In one of the gilded chariots.  
They didn't bound, but they  
Circled just as fast.

You could get just as dizzy with the ride  
Spinning toward infinity.



There was a youngster, though,  
 Sometimes on a unicorn,  
 Sometimes on a gold-eyed horse,  
 Or the lion  
 Or the ostrich,  
 Even once in a while a chariot.  
 She wore a faded old cotton dress  
 Buttoned up the back  
 In a hard-to-reach way  
 And belted with a cotton sash  
 Over a pleated skirt,  
 And in winter a baggy no-color  
 Warm wool sweater.  
 She seemed to get a ride in every day,  
 But the ticket seller never  
 Seemed to spot her in the line.  
 Of course, she was a little thing,  
 Hard enough to spot  
 Even on the silver leaping bear  
 At the top of its bounce.  
 The ticket seller sometimes thought—  
 But then she didn't,  
 Seeing as it wasn't possible.  
 But even so she never seemed  
 To spot either the youngster in the ticket line  
 Or the woman all in black in the crowd,  
 When the merry-go-round  
 Fell silent and the riders from before  
 Slid off the quiet animals,  
 And the line surged through the gate  
 Running to get dibs  
 On their favorite animals,  
 Before the music and the ride  
 Set out again.

The girl with the cotton sash  
 Seemed to be able to get the unicorn  
 Any time she liked.

—Ruth Berman



# NEXT ISSUE

## MARCH ISSUE

Periodically, there's idle talk here and there about the apparent death of the short story; of how it seems to be of little relevance or interest to today's readership. We see no such weakening from our vantage point and we think, once you've read what we have to offer in our March issue, you too will agree that the rumors of the short story's demise have, as usual, been greatly exaggerated. As Steven Millhauser so admirably wrote in a recent essay for the *New York Times*, the short story's "method is revelation . . . its littleness is the agency of its power." We couldn't agree more.

## MARCH NOVELLA

To begin with, consider March's novella by multiple award-winner **Nancy Kress**, "Act One": Barry Tenler, dwarf manager to Desmondesque actress Jane Snow, must somehow juggle his responsibilities resuscitating her flagging career while navigating both his failed marriage and the difficult post-9/11 future Snow finds herself embroiled in. To make matters worse, the bio-terrorists of this future do not wield bombs, but, instead, a more sinister kind of transmitted virus: involuntary empathy.

## ALSO IN MARCH

Harry Turtledove returns in March with a bleak and sure to be controversial look at the hazards of "Getting Real"; **Holly Phillips**, making her welcome return to *Asimov's*, presents a wholly different sort of bleak as the next ice age descends upon a new, northern *fin de siècle* in "The Long, Cold Goodbye"; **Sara Genge** regales with a tale of ragged mud-pirates swashbuckling their way across the lumbering lines of alien elephant caravans in "Slow Stampede"; **Benjamin Crowell**, making his *Asimov's* debut, the witty "Whatness," that may well prove dogs to be the great intelligence on this planet most worth preserving; and **R. Neube** contributes his patented blend of funny/scary wit with a tale of a decidedly malignant "Intelligence"

## OUR EXCITING FEATURES

**Robert Silverberg**, in his Reflections column, presents a timely examination of possible "Doomsday"; **James Patrick Kelly** offers his On the Net column, "The State of Pod"; **Paul Di Filippo** brings us "On Books"; plus an array of poetry you're sure to enjoy. Look for our January issue at your newsstand on January 27, 2009. Or you can subscribe to *Asimov's*—by mail or online, in paper format or new-fangled downloadable varieties, by visiting us online at [www.asimovs.com](http://www.asimovs.com). We're also available on *Amazon.com's* Kindle!

## COMING SOON

brand new stories by **Kate Wilhelm**, **Michael Swanwick**, **Eileen Gunn**, **Kristine Kathryn Rusch**, **R. Garcia y Robertson**, **Brian Stableford**, **William Barton**, **Bruce McAllister**, **Christopher Barzak**, **Michael Cassutt**, **Jerry Oltion**, **Damien Broderick**, and many others!

**AN EVIL GUEST**

By Gene Wolfe

Tor, \$25.95 (hc)

ISBN: 978-0-7653-1470-3

**W**olfe, one of the genre's finest stylists, offers up a story that combines Lovecraftian atmosphere with elements of a noir detective story, and a dark romance—all set against a science fiction background, roughly one hundred years from now.

The main characters are Gideon Chase, a brilliant investigator whose powers border on the magical; Bill Reis, a returnee from the planet Woldercan who has uncanny but dangerous powers; and Cassie Casey, an actress who ends up involved with both. The story begins as a US president (who somewhat resembles the second Bush) attempts to hire Chase to investigate Reis, whom the government believes to be a spy. Chase sets a price that the president balks at; nonetheless, at the beginning of the second chapter, Cassie gets a note from Chase offering to make her rich—and a star—if she will help him in an investigation.

The story then turns into a series of encounters between Cassie and the two men—each of whom she finds vastly attractive, and each of whom has much to offer. Cassie finds herself suddenly possessed with the kind of charisma that makes her the object of all eyes—the magic of star power. But she is also caught up in sinister webs of intrigue, from both Chase and Reis.

Without any clear explanation, Cassie goes through a series of strange, violent events. Creatures similar to Lovecraft's night gaunts come to her window; the plot of a show Reis has written for her somehow seems to be happening in real life. Eventually, events come to a climax on an isolated Pacific island where the na-

tives worship her as a queen, and where emissaries of a sinister undersea deity emerge, evidently hoping to abduct her.

Wolfe plays the Lovecraftian themes lightly, evoking eldritch horrors but never entirely letting them take over the story. Instead, he lets Cassie's love for the two powerful men in her life have the emotional center of the story. The plot builds with the apparent logic of a detective story; but just as the reader gets ready to seize on one set of clues, Wolfe changes direction and leaps into a new set of complications. Ultimately, the story has a dreamlike structure in which supernatural powers, incredible reverses of fortune, sudden danger, vast wealth, and exotic backgrounds are melded into a whole that transcends its incongruous parts.

Wolfe is one of the very few writers who could bring off such a tour de force. Highly recommended.

**THE WORD OF GOD**

By Thomas M. Disch

Tachyon, \$14.95 (TP)

ISBN: 978-1-892391-77-3

The recent death of Disch—just a few days ago, as I write—makes the appearance of this book an especially poignant occasion. His audacious imagination, his fierce refusal to give in to conventional ideas, and his dark humor—which will make some readers very uncomfortable—are all on brilliant display in this satiric masterpiece.

The title states the central trope of the book: Disch declares himself divine, and this volume is his revelation. Not surprisingly, the "teachings" often take the form of parables, and eventually a sort of plot begins to emerge as one follows another. In between, Disch offers hints of his divine laws, showing the kind of life he wants us poor mortals to lead. And,

inevitably, there are jabs at other gods and other revelations.

One parable has Jesus and St. Peter visiting Earth, and attending a showing of Mel Gibson's "The Passion of the Christ." Another chapter recounts Disch's baptism by Reverend Billy, a backwoods prophet who runs a children's zoo. At other points, Disch relates episodes from his own pre-divine life, bits of poetry, observations on literature, music, and life, and general rules for living.

He offers two key teachings: one is the admonition for the human race to stop breeding, and the other the prohibition of killing. He's serious about the latter—no exceptions for execution of criminals or "good" wars. The former—well, it would certainly do a lot to slow down environmental degradation caused by human agency. Of course, that would require significant portions of the race to convert to Dischism—a prospect even he seems unlikely to have given any high probability.

Disch is aware of the key issues any religion—and by implication, any god—must address. He flatly denies personal responsibility for evil. However, he accepts that he must somehow account for death. After a brief survey of death gods in other religions—notably Kali, whose bloodthirstiness he deplores—he offers two short poems on death, then a longer one—an elegy for Philip K. Dick, who serves as the anti-hero to Disch's divinity.

Given the high regard for Dick's work, Disch's choice of that author as the antagonist will bother a fair number of readers. One could speculate on the reasons; the bottom line, here, is that Dick is shown being sent from Hell back in time to prevent Disch's birth by killing his father before his conception. Disch takes advantage of a historical coincidence to postulate that his real father was Thomas Mann—who did visit Minneapolis a few months before Disch's birth.

The later pages of the book offer less and less of the theology of Dischism and follow the Dick plot—in which the author of *The Man in the High Castle* stalks the great German author, con-

vinced that Mann's death will bring about the triumph of Naziism and the perpetual presidency of Phil Dick.

Disch probably knew that many readers would find this satiric portrayal of an SF icon distasteful. Ironically, the people most likely to buy this book will probably find the Dick theme more offensive than Disch's undisguisedly hostile gibes at radical Islam or even his writing off of the Christmas tsunami that killed tens of thousands as "shit happens." Disch never was one to coddle his readers' sensibilities, and there are bits here to make almost anyone uncomfortable.

But this is a book worth sticking with. Disch was one of our most gifted writers, and even when he is being insufferable, he has something to offer. If you can't find this one, then go back and read *Wings of Song* or *Camp Concentration*. They're worth searching for.

We should have had many more books from him, but we can cherish the ones we did get.

## HAVEMERCY

by Jaida Jones & Danielle Bennett  
Bantam Spectra, \$22.00 (hc)  
ISBN: 978-0-533-80696-0

A debut fantasy with steampunk overtones, this one is set in a society reminiscent of late imperial Russia, where mechanical dragons act as fighter-bombers in an apparently hopeless war.

The book follows four main characters: Margrave Royston, a magician exiled for seducing the crown prince of an allied nation; Hal, a country boy eager for a more adventurous life; Thom, a scholar sent to teach the dragon pilots civilized manners; and Rook, the wildest and most violent of the pilots. They are brought together in two parallel plots. One has Hal assigned to keep Royston out of his country relatives' way, the other has Thom struggle to get the flyers to accept his teachings, with Rook the most opposed to discipline of any sort.

The story is told from the point of view of each in turn, which gives the reader several wildly different takes on the so-



ciety they inhabit. Thom and Hal are bookish in different ways, although both from humble origins. Royston and Rook are wilder, though from different ends of the social spectrum. And while Royston is the epitome of sophistication, he can pass along only a fraction of his knowledge to his new protégé. For his part, Rook is a jumped-up street thug whose ability to fly a dragon can't conceal his viciousness as he hazes and taunts Thom.

Gradually, the parts of the story begin to fit together. The war is forcing the pilots to drive themselves and their dragons harder. The exiled magicians—including Royston—are recalled to lend their powers to the war effort. Hal and Thom begin to understand that their own talents are essential to the final outcome.

The plot culminates in a climactic battle, but not before an internal crisis hits the magicians. At the same time, the dragons and their riders must overcome their own crisis. The two crises are related, of course, and their solution is brought about by the two characters who don't quite "belong" to the closed societies into which they have been introduced.

The authors show themselves adept at strong world building. The style has echoes of Samuel R. Delany's work of the mid-sixties, quite an achievement for two first novelists. It's worth keeping an eye out for whatever they do next.

## **SINGULARITY'S RING**

by Paul Melko

Tor, \$24.95 (hc)

ISBN: 978-0-7653-1777-3

This debut novel takes place sometime after the bulk of the human race has disappeared into the Singularity. The remaining population on Earth has turned to group consciousness, built around small telepathic "pods," each member of which contributes a particular talent.

The story follows one particular group, which calls itself Apollo Papadopolous. Its five members—Strom, Meda, Quant, Manuel, and Moira—have been raised together, and we meet them on a training mission in deep winter. An avalanche

buries the camp of an adjacent team, and Strom goes to try to help; then another avalanche buries Apollo's tent, and Strom believes himself orphaned. But his physical strength—his salient quality—enables him to save both teams, and in the process he discovers a group of bears that appear to have formed a pod—though nobody believes him when he reports it.

Sent to recuperate from its ordeal, the pod encounters another crisis, this time seen through the eyes of Meda, the group's interface with others. A survivor of the pre-singularity human community, Malcolm Leto seduces Meda, planning to use her to convert others to his plan to recapture the high technology left behind by those who have escaped into the Singularity. This time, the rest of the team intervenes to save her.

Their next test is in space. They are sent to an orbiting station to learn piloting, as candidates to captain a starship. Now they seem to have drawn still another kind of unwanted attention, as they are singled out as possible subversives by military operatives. With the help of another pod, they escape back to earth—but find themselves the objects of a government manhunt.

Escaping, they must confront the mystery of their origin. But in facing their challenges, they learn to meld themselves more completely into a single unit—a true symbiosis of five talents and five individual consciousnesses. Melko provides a credible mechanism for the creation of the pod, and portrays a future in which its existence makes sense.

One of the few recent works that builds on the idea of Sturgeon's landmark novel, *More than Human*. This is an impressive first novel for Melko.

## **DOGS**

By Nancy Kress

Tachyon, \$14.95 (tp)

ISBN: 978-1-892391-78-0

Kress's latest is probably best described as a near-future techno-thriller, with a touch of Stephen King.

The story takes place in Tyler, a small

town in Western Maryland, a once-rural area that's turning into a bedroom community for Washington. A recent arrival in town is Tessa Sanderson, recently separated from the FBI after the accidental death of her husband, an Arab-American businessman. As the book begins, she gets a phone call from her old boss. He says that her husband's name has turned up in email intercepts; maybe she can shed light on it. Tessa, who knows the Bureau cut her loose because of her husband's nationality, is uninterested in cooperating. More anti-Arab paranoia, she figures.

In the same town, a number of dogs have suddenly turned vicious, attacking their families. Jess Langstrom, Tyler's animal control officer, has never seen anything like it. The attacks are coming from normally docile breeds, and a large number of the victims are children. The situation quickly overwhelms the local hospital and the public safety officers. What do you do when every dog in town—a country town, where many older residents are used to letting their dogs run free—must be treated as a potential killer?

Langstrom's response is to lose himself in work, making sure that every animal is accounted for. When the feds come in, recognizing that the situation threatens to overwhelm the local authorities, he becomes a pawn for government agencies with their own power-seeking agendas. But his knowledge of the turf means they can't entirely reject his advice and expertise. He keeps working, even as the threat seems ready to spiral out of control.

Meanwhile, Tessa becomes aware that the email messages sent to her husband have the Arabic word for "dog" repeated several times. Afraid to contact her old bosses, she begins her own search through the web of his old acquaintances, trying to find who has contacted him—and what, if anything, it has to do with Tyler's emergency. Not surprisingly, it turns out to have everything to do with it.

Kress builds the plot piece by piece, dropping clues that hint at the way things are going to turn out but never let the reader see quite far enough ahead to guess the outcome. Tessa, putting her

old tradecraft to work, begins to sort out the malevolent plan behind the epidemic of canine violence. Eventually she puts together the traces of evidence that lead her to a solution—and a confrontation.

Kress builds the tension and sheer terror of the situation with great effect, keeping the reader off guard even when the solution seems to be in sight. The conclusion is eminently satisfactory—and by no means too pat. Fine work by one of our most versatile professionals.

## **UPGRADE ME**

**Our Amazing Journey to Human 2.0**  
by Brian Clegg

St. Martin's, \$24.95 (hc)

ISBN: 978-0-312-37157-9

Human enhancement—cyborgs, life extension, vastly increased intelligence, and the like, are the very stuff of SF—usually ending up with some variation of the Frankenstein theme. Clegg, a British science writer, argues in this provocative book that we began extending our biological capabilities almost as soon as our ancestors came out of the trees.

According to Clegg, the key imperatives of human life have been staying alive, reproducing, defending ourselves, improving our brains, and healing injuries. Each of these led our ancestors to adopt strategies that separated them from the animals around them.

Cheating death began with the use of cave shelters, weapons, and fire to keep predators at bay. Now, indefinitely long life spans may be within our reach though genetic manipulation and the use of microbots to repair our bodies from within.

Making ourselves attractive to the opposite sex led to clothing, hairdressing, and simple cosmetics—some of which can be documented in paleolithic burials. The "Iceman," a hunter from roughly 3,000 BCE whose frozen body was discovered in the Italian Alps in 1991, had nearly sixty tattoos. Dieting, body-building, and cosmetic surgery are of slightly more recent vintage, but still well short of what might be done with advanced technology.

We humans have greatly benefited from the use of tools, ranging from basic

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**THE VISITORS** by V.A. Blaine \$14.95. Check/M.O.: OhlmsBooks Publications Box 125 Walsenburg, CO 81089-0125. [www.ohlmsbooks.com](http://www.ohlmsbooks.com)

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farming implements to the highest technology our societies have created. But it's easy to overlook the other, subtler tools that we've been using almost as long as we've been human: language, fire, animals trained to serve our purposes.

Brain enhancement can be as simple as the morning coffee. It both wakes us up and improves our ability to concentrate. Less obvious, but far-reaching enhancements became available with the invention of writing: a human plus a set of reference books—or, nowadays, a computer database or the internet—has far more information available at the fingertips than one relying on the unaided brain.

But the properly trained unaided brain is capable of amazing feats. One powerful tool is visualization: using a mental image of a building or landscape as a mnemonic for information one wants to retain, assigning each fact to a specific location.

Not many people are likely to include medicine among things that were better in the "good old days." Really effective advances in the medical arts only begin in the nineteenth century, when anes-

thetic, antiseptics, and inoculation began to eliminate causes of death that, until then, had been inescapable facts of life. But even in ancient times mechanical aids such as canes and crutches were known, and wheelchairs appear to have been around in late Roman times. Eyeglasses date at least to the Renaissance.

Nowadays, a substantial portion of the population is walking around with artificial replacements or enhancements—from plastic lenses in our eyes to artificial limbs and pacemakers in the heart. In time, we may be able to use mechanical aids on a much more radical level, making ourselves essentially cyborgs—amalgams of organism and computer.

Clegg doesn't put much stock in the Singularity or other more radical predictions for the future of the race. But he is persuasive as he argues that enhancement is not just a future probability, but has always been one of the most central characteristics of human culture.

In short, you don't need to wait for the upgrade to Human 2.0—you've already got it. Enjoy. ○

# SF CONVENTIONAL CALENDAR

The year starts off with two big events at opposite ends of the I-90 highway: RustyCon out West, Arisia back East. Plan now for social weekends with your favorite SF authors, editors, artists, and fellow fans. For an explanation of con(vention)s, a sample of SF folksongs, and info on fanzines and clubs, send me an SASE (self-addressed, stamped #10 [business] envelope) at 10 Hill #22-L, Newark NJ 07102. The hot line is (973) 242-5999. If a machine answers (with a list of the week's cons), leave a message and I'll call back on my nickel. When writing cons, send an SASE. For free listings, tell me of your con 5 months out. Look for me at cons behind the Filthy Pierre badge, playing a musical keyboard.—Erwin S. Strauss

## NOVEMBER 2008

- 9-11—RustyCon. For info, write: Box 27075, Seattle WA 98165. Or phone: (973) 242-5999 (10 AM to 10 PM, not collect). (Web) [rustycon.com](http://rustycon.com). (E-mail) [rustycon@rustycon.com](mailto:rustycon@rustycon.com). Con will be held in: Seattle WA (if city omitted, same as in address) at the SeaTac Marriott. Guests will include: Jay Lake, James Stanley Daugherty.
- 9-11—GAFilk, Box 702, Alpharetta GA 30009. [gafilk.org](http://gafilk.org). Airport Crowne Plaza, Atlanta GA. Kirby, Feld. SF folksinging.
- 16-19—Arisia, Bldg. 600, #322, 1 Kendall Sq., Cambridge MA 02139. [arisia.org](http://arisia.org). Hyatt. Hunt, Seeley, the Dicks.
- 16-18—MarsCon, 131B King Henry Way, Williamsburg VA 23199. [wiki2009.marscon.net](http://wiki2009.marscon.net). Ringo, Weiskopf, Ron Miller.
- 16-18—DeConPression, 5765 Cairo Rd., Westerville OH 43081. (614) 885-3334. [decompression.org](http://decompression.org). Columbus OH. 18+.
- 22-26—FURTHER ConFusion, 105 Sierra Way #236, Milpitas CA 95035. [furtherconfusion.org](http://furtherconfusion.org). San Jose CA. Fumes.
- 23-25—ConFusion, Box 8284, Ann Arbor MI 48107. [stilyagi.org](http://stilyagi.org). Marriott, Troy MI. C. Doctorow, C. Rambo, D.H. Stein.
- 23-25—ChattaCon, Box 23908, Chattanooga TN 37422. [chattacon.org](http://chattacon.org). Choo Choo Holiday Inn. Weber, Kurtz, Rowena.
- 23-25—COSine, 1245 Allegheny Dr., Colorado Springs CO 80919. [firstfridayfandom.org](http://firstfridayfandom.org). Best Western Academy. Martin.
- 23-25—VeriCon, HRSFA, 4 Univ. Hall, Cambridge MA 02138. [vericon.org](http://vericon.org). Harvard Univ. K.S. Robinson, A. Steele, more.
- 24-25—Sci Fi Expo. [scififlexpo.com](http://scififlexpo.com). Richardson (Dallas area) TX. Emphasis on media and toys.
- 30-Feb. 1—ConFlikt. [conflikt.org](http://conflikt.org). Seattle WA. Seanan McGuire, Frank Hayes, Lawrence Dean. SF/fantasy folksinging.
- 30-Feb. 1—Creation, 217 S. Kenwood, Glendale CA 91205. (818) 409-0960. [creationent.com](http://creationent.com). Los Angeles CA. T. Todd.
- 30-Feb. 1—ConJour. [con-jour.ndos.net](http://con-jour.ndos.net). Univ. of Houston, Clear Lake TX. Gaming, media, SF, fantasy and horror.

## DECEMBER 2008

- 6-8—SuperCon, 601 Palace Ave., St. Paul MN 55102. [supercon.info](http://supercon.info). Brentwood, Rochester MN. Low-key relax-a-con.
- 6-8—Florida Extravaganza, 4104 McLeod Rd., Orlando FL 32811. (407) 650-3810. [fxshow.com](http://fxshow.com). Takei, A. West, Estrada.
- 6-8—UK Filk Con, 15 St. Catherine's Cross, Bletchingly RH1 4PX, UK. [contable.org](http://contable.org). Grantham. SF/fantasy folksinging.
- 6-8—SF Ball, 3 Blighwood, 57 Surrey Rd., Poole BH 1HF, UK. +44 0709281 2101. [sfball.com](http://sfball.com). Bournemouth. P. Jurask.
- 13-15—Boskone, Box 809, Framingham MA 01701. (617) 623-2311. [boskone.org](http://boskone.org). Boston MA. J. Walton, I. Gallo, Dr. SETI.
- 13-15—Farpoint, 11708 Troy Ct., Waldorf MD 20601. (410) 579-1257. Timonium (Baltimore) MD. Trek and other media SF.
- 13-15—Gallifrey, Box 8022, Los Angeles CA 91406. [gallifreyone.com](http://gallifreyone.com). G. Harper, J. Moran, P. Cornell, T. Hadoko. Dr. Who.
- 13-15—KatsuCon, Box 3354, Crofton MD 21114. [katsucon.org](http://katsucon.org). Hyatt Crystal City, Arlington VA (near DC). Anime.
- 13-15—KawaKon, Box 260014 St. Louis MO 63126. [kawacon.com](http://kawacon.com). Crowne Plaza Clayton. J. Taylor. Anime.
- 19-22—CapriCon, 126 E. Wing #244, Arlington Hts. IL 60004. [capricon.org](http://capricon.org). Westin, Wheeling (Chicago) IL. S. Shinn.
- 19-22—SpaceFest, Box 37197, Tucson AZ 85740. (520) 888-2424. [spacefest.info](http://spacefest.info). San Diego. Aldrin. Space development.
- 20-22—ConDFW, 750 S. Main #14, Keller TX 76248. [www.condfw.org](http://www.condfw.org). Dallas TX. Jim Butcher, David Weber.
- 20-22—ConNooga. [connooga.com](http://connooga.com). [info@connooga.com](mailto:info@connooga.com). Choo Choo Holiday Inn, Chattanooga TN. "Multi-fandom."
- 20-22—Furry Fiesta. [furryfiesta.org](http://furryfiesta.org). Addison (Dallas area) TX. Anthropomorphics.
- 20-22—UK Nat'l. Con, 26 King's Meadow View, Wetherby LS22 7FX, UK. [smof.com/redemption](http://smof.com/redemption). Britannia, Coventry UK.

## JANUARY 2009

- 6-10—Anticipation, CP 105, Montreal QC H4A 3P4. [anticipationsf.ca](http://anticipationsf.ca). Gaiman, Hartwell, Doherty. WorldCon. US\$/C\$215.

## AUGUST 2009

- 2-6—Aussiecon 4, GPO Box 1212, Melbourne VIC 3001, Australia. [aussiecon4.org.au](http://aussiecon4.org.au). The World SF Convention. US\$90.

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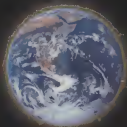
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